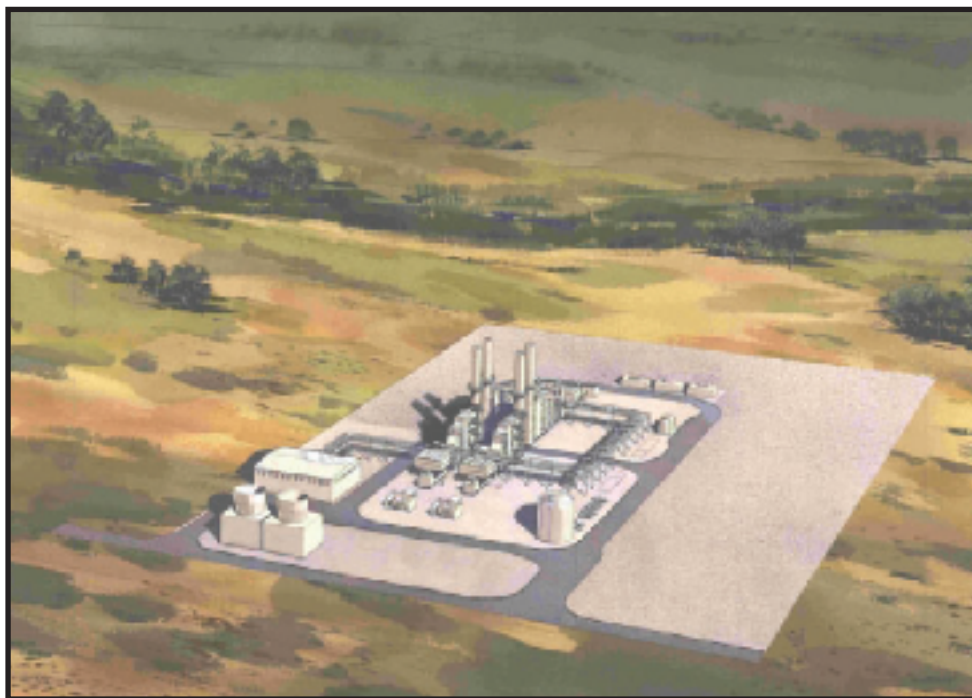


**CALIFORNIA
ENERGY
COMMISSION**

LOS ESTEROS CRITICAL ENERGY FACILITY PROJECT

**Application For Certification 01-AFC-12
Santa Clara County**



**PRESIDING MEMBER'S
PROPOSED DECISION**

**MAY 2002
P800-02-003**



Gray Davis, Governor

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Gray Davis, Governor

CALIFORNIA ENERGY COMMISSION

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Sacramento, CA 95814
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Chairman and Presiding Member

JAMES D. BOYD
Commissioner and Associate Member

MAJOR WILLIAMS
Hearing Officer

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512

The Committee hereby submits its Presiding Member's Proposed Decision for the Los Esteros Critical Energy Facility (Docket Number 01-AFC-12). We have prepared this document pursuant to the requirements set forth in the Commission's regulations. (20 Cal. Code of Regs., §§ 1749-1752. 5).

We recommend the Application for Certification for the Los Esteros Critical Energy Facility be approved, subject to the Conditions of Certification set forth herein, and that the Commission grant the Applicant a license to construct and operate the project.

Dated on May 30, 2002, at Sacramento, California.

WILLIAM J. KEESE, Chairman
Presiding Member
Los Esteros AFC Committee

JAMES D. BOYD, Commissioner
Associate Member
Los Esteros AFC Committee

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INTRODUCTION

A. SUMMARY

This document is the California Energy Commission's Presiding Member's Proposed Decision (PMPD).¹ The Energy Commission has exclusive jurisdiction in California over the licensing of power plants that are 50 megawatts (MW) or more. The Commission appointed a Committee of two Commissioners to review the proposed power plant project. This PMPD contains the Committee's determinations regarding Calpine C* Corporation's (Calpine or Applicant) Application for Certification (AFC) for the Los Esteros Critical Energy Facility (LECEF)², a 180 MW simple-cycle, gas-fired power plant in the City of San Jose. The PMPD includes the findings and conclusions required by law, and it is based exclusively on the evidentiary record established at the hearings on the application. The document contains the Committee's reasons supporting its PMPD and references to portions of the record, which support the Committee's findings and conclusions.³

As proposed, the LECEF will serve as a mitigation project for the U.S. DataPort (USD) Planned Development Zoning Project (PDZ), which was approved by the City of San Jose at a City Council Meeting on April 3, 2001. LECEF is planned as Phase 1 of the three-phase USD project, a 2.227 million gross-square-foot

¹ The requirements for the Presiding Member's Proposed Decision are set forth in the Commission's regulations, Title 20, California Code of Regulations, sections 1749 through 1754. Requirements for the Revised PMPD are found in Title 20, California Code of Regulations, section 1753. The Final Decision is described in section 1755.

² Applicant is proposing to construct and operate the LECEF near the intersection of State Route 237 and Zanker Road, at 1515 Alviso-Milpitas Road, within San Jose City limits in Santa Clara County, California. Zanker Road will connect to an access road that will lead to the power plant area.

³ References to the evidentiary record, which appear in parentheses following the referenced material, may include an exhibit number and/or a reference to the date, page and line number(s) of the reporter's transcript e.g., (Ex. 2, p. 55; 3/11/02 RT 123:8-124:3.) Evidentiary Hearings were conducted on March 11 and May 20, 2002.

Internet data center. Phase II would convert the LECEF to a combined-cycle power plant⁴ by adding four heat recovery steam generators, two steam turbine generators, and associated accessory equipment for a generation capacity of approximately 260 MW. (Ex. 1H.) Phase III would include the installation of equipment and systems for the planned USD “Super Hub” Server Farm. (3/11/02 RT 307:19-308-23; Ex. 1, p. 4.5-10.)

Before the San Jose City Council approved the current design of the USD PDZ, a previous proposal included four dual-fuel-fired, 10-MW turbines and approximately 90 diesel backup generators (two MW each) for emergency power and backup generation. The City of San Jose sought a more efficient, modern, and less polluting energy producing facility than one using 90 diesel generators. The Applicant proposed LECEF to the Energy Commission as the environmentally superior alternative.⁵ (3/11/02 RT 307:14-309-16; Ex. 1, p. 1.1.; 5/20/02 RT 280:7, 281:15.)

Several Intervenors actively participated in the Commission’s evidentiary hearings on the LECEF project by cross-examining witnesses, and/or presenting witnesses and documentary evidence of their own. These active Intervenors include the:

- City of Milpitas (Milpitas);
- Coalition of Ratepayer and Environmental Groups (the Coalition); and
- T.H.E. P.U.B.L.I. C, William J. Garbett, Agent.

⁴ Conversion to combined cycle or shutdown is required by law. (Public Resources Code § 25552).

⁵ Applicant’s May 3, 2002, Petition for Review includes a copy of the March 15, 2001, settlement agreement between the Energy Commission and the Applicant regarding a jurisdictional dispute over the diesel generators. The jurisdictional agreement discusses the Central Reliability Energy Center (CREC), LECEF’s predecessor. (5/20/02 RT 9:19-10:10.)

Both Milpitas and the Coalition were represented in the proceedings by counsel of record. Milpitas was particularly concerned about LECEF's potential impacts on Visual Resources. The Coalition focused its presentation on the topic of Transmission System Engineering. The Coalition participated in all phases of our proceedings. Mr. Garbett, who is not an attorney, appeared in a representative capacity only. Mr. Garbett, an agent for an organization described as "T.H.E. P.U.B.L.I.C.," produced no witnesses but did participate in a limited way at the March 11, 2002 Evidentiary Hearing. The Californias Unions for Reliable Energy (CURE) intervened but did not participate in the Evidentiary Hearings. (3/11/02 RT 3:25-4-23.)

In addition to the formal Intervenor named above, there were a number of public officials and members of the public who participated to offer support or opposition to the project. For example, in a March 8, 2002, letter to the Committee, the Mayor of San Jose, Ron Gonzales, indicated support for the LECEF project. Mayor Gonzales considers LECEF as an integral part of the larger and adjoining USD PDZ. He notes with approval that LECEF's current design:

- Eliminates 90 diesel backup generators;
- Includes an environmentally superior natural gas fired power plant; that
- Provides peaking power to the grid in an area of critical need before USD's buildout;
- Makes USD energy self-sufficient after its buildout, and
- Provides an economic benefit for the economy of San Jose and the Silicon Valley. (3/11/02 RT 343:15-345-13.)

Mr. George Sedgewick, who is president and a founder of the USD company, offered public comment on the status of the USD project⁶ Mr. Sedgewick informed the Committee that the USD project is 12 to 18 months behind schedule, having only obtained a conditional contract to purchase the property

⁶ When constructed, USD will virtually surround and provide additional screening for the LECEF. (Ex. 1, Figure 9.)

but lacking financing and tenants. Once construction begins, it will take from three to five years to completely build out the USD project, depending on the economic climate in the technology/telecommunications industry at the time. (3/11/02 RT 29:7-46-22 see our section on **Land Use**. *infra.*)⁷

Members of the public who support the project presented public comment at the March 11, 2002 Hearing. Mr. Dean Beard, a concerned citizen who performs public service work in the community of Alviso, commented favorably on the benefits of the facility to the local area environment and economy as compared to any larger manufacturing facility with its attendant traffic and congestion issues. (3/11/02 RT 335:1-339:6.)

Mr. Jim Kanine, a former California Assemblyman and current president/CEO of the San Jose Silicon Valley Chamber of Commerce (Chamber), spoke in favor of the LECEF project on the Chamber's behalf. Mr. Kanine views the project as a "total win" for the business community in the Silicon Valley. He asserted that the LECEF project is consistent with the City of San Jose's energy independence plan. He commented on the special relationship between the LECEF and USD projects in terms of the virtual elimination of back-up diesel-fired generators. (3/11/02 RT 339:7-340-21.)

Mr. Jose Garcia, representing the Building Trades Council, testified in support of the project on behalf of union-represented construction workers. Mr. Garcia commented that the LECEF project would reinvigorate the local economy in terms of its capacity for construction and operations employment for area workers. (3/11/02 RT 340:24-342-1.)

⁷ We note that the evidence of record establishes that the LECEF and USD's PDZ were approved as a single project with LECEF's providing energy resources to USD. (3/11/02 RT 312:9-313-4.)

Finally, Richard Santos, a lifetime resident of the community of Alviso and a Director of the Santa Clara Valley Water District, spoke in favor of the LECEF project. Mr. Santos commented on Calpine and USD's active involvement in the Alviso community to garner local support for the projects by addressing community concerns. Mr. Santos stated his opinion that the developers had addressed the concerns of the local citizenry and their political representatives. He concluded that the LECEF and USD projects would provide a valuable economic stimulus for the community. (3/11/02 RT 342:4-343-9.)

By contrast, Milpitas and the other active Intervenorrs opposed the LECEF project. At the March 11, 2002, Evidentiary Hearing, the Mayor of Milpitas, Henry Manayan, presented public comment articulating the City's opposition to the LECEF project.

According to Mayor Manayan, LECEF in its current configuration without USD creates a significant unmitigated visual impact at Milpitas' western border.⁸ Milpitas has invested millions of dollars to create a high-tech friendly city and to encourage high-tech investments therein. In the absence of the USD PDZ facility, the LECEF project would be completely objectionable as an unscreened continuation of the heavy industrial use on Milpitas' western border. Milpitas, however, would have no objection to a synchronized LECEF/USD development or one where LECEF was conditioned on an architecturally superior design. (3/11/02 RT 245:25-251-4.)

At the May 20, 2002, Evidentiary Hearing, the Committee received draft settlement documents reflecting a tentative agreement between Applicant and Milpitas. These documents reflect that Applicant has allocated up to \$2,000,000 for architectural treatment of the LECEF facility. (Ex. 8.) The tentative agreement provides for enhanced landscaping and architectural treatment for

⁸ LECEF's proposed site is located in north San Jose just west of Coyote Creek, which forms Milpitas' western boundary and separates the two cities. (3/11/02 RT 246:6-22.)

LECEF. In light of the tentative agreement, we conclude that LECEF will have no unmitigated significant impact, and that it will comply with all laws, ordinances, rules and standards (LORS) regarding Visual Resources. (5/20/02 RT.)

B. LECEF

If licensed, LECEF will be a nominal 180-MW, simple-cycle power plant. The proposed facility will include:

- four combustion turbine generators (CTGs) equipped with water injection and spray intercooling injection (SPRINT) to control oxides of nitrogen (NO_x);
- additional emissions control equipment; and
- associated support equipment.⁹

Eventually, underground transmission cables will convey electricity from LECEF to the planned PG&E Los Esteros Substation located adjacent to the LECEF and USD PDZ site.¹⁰

Natural gas supply to the CTG's would flow through a 10-inch line connection to the PG&E pipelines 101 and 109 at the southern end of the LECEF property near State Route (SR) 237. The four CTG's would require approximately 45,397 MMBTUs of natural gas per day. For reliability purposes, the project would connect to each of the two main PG&E gas pipelines. Gas would be pressurized by onsite compressors as needed, and flow through scrubbing and filtering

⁹ As discussed above, the LECEF will be constructed in three phases, comprised initially of four, natural-gas-fired, simple cycle combustion turbines to produce a nominal 180 MW generation output, which is the subject of this PMPD. The subsequent phases still under evaluation are proposed to add steam-generating capabilities that will increase the project's nominal output to 260 MW, as well as modifications to enhance reliability and availability. The project owner would be required to fill an Amendment to the AFC or a new AFC for the combined cycle phase of the project.

¹⁰ Until PG&E constructs the substation, the project will rely on a temporary transmission connection via a 2000-foot aboveground "tap-line" that will interconnect with an existing 115 kV line at Zanker Road. For a fuller description of the project, see our section, *infra*, entitled **PROJECT DESCRIPTION**.

equipment to a gas pressure control and flow metering stations prior to entering the combustion turbines.

The San Jose/Santa Clara Water Pollution Control Plant (WPCP) would supply the facility with recycled water through the auspices of the South Bay Water Recycling program. A recycled water pipeline approximately 1,000-feet long, will connect to an existing WPCP pipeline at a point parallel to SR 237. The facility will use recycled water for all cooling and combustion systems. Peak water consumption on a hot day, at full-load operation, totals about 566 gallons per minute, or about 820,000 gallons per 24-hour day.¹¹

Trucked water delivery will provide potable water; LECEF will not have a potable water pipeline because the City of San Jose's municipal water supply does not extend to the site. Discharged treated process water will be diverted to an existing WPCP line at a point near Zanker Road by way of a 2,700-foot waste discharge line to be constructed along the proposed access road.

C. EXPEDITED PROCESSING UNDER PUBLIC RESOURCES CODE, SECTION 25552¹²

Calpine filed its AFC under our four-month process on August 7, 2001, anticipating completed project construction and production initiated during the summer of 2002. (Pub. Res. Code, §25552.) Section 25552 requires the Energy Commission to expedite, to the extent feasible, the processing of AFCs for projects such as LECEF that are expected to be online by December 31, 2002.

¹¹ Peak water use under such conditions would approximate 917 acre-feet-per-year (based upon an assumption of round the clock operation for a year). Approximately 42 percent of the total water requirements would be for water injection to control NOx emissions; cooling towers makeup water will consume the balance.

¹² Herein, all references to section 25552 refer to the Public Resources Code.

Qualification and licensure for the four-month process contemplated by section 25552 requires an AFC to demonstrate that the simple-cycle, thermal powerplant and related facilities will:

1. not be a major stationary source or a modification to a major stationary source under the federal Clean Air Act;
2. be equipped with best available control technology (BACT);
3. not have a significant adverse effect on the electrical system as a result of construction or operation;
4. provide a contract with a general contractor for the provisions of skilled labor to construct, operate and maintain the facility;
5. not have a significant adverse effect on the environment as a result of construction or operation;
6. assure protection of public health and safety;
7. comply with all applicable federal, state, and local laws, ordinances, and standards (LORS);
8. provide a reasonable demonstration that the project will be in service before December 31, 2002;
9. provides for a binding and enforceable agreement with the Energy Commission that demonstrates either
 - (a) that the project will cease to operate, and its permit will terminate within three years, or
 - (b) that within a period of three years, it will be recertified, modified, removed or replaced, with a cogeneration or combined-cycle thermal powerplant that (1) uses (BACT), (2) obtains necessary offsets according to the stated ratio (and consistent with federal law and regulation) or, where offsets are unavailable, pay an air emissions mitigation fee to the air pollution control district or air quality management district based upon actual emissions, for expenditure by the district under Section 44275 of the Health and Safety Code, to mitigate the emissions from the plant, and, (3) complies with all LORS. (Pub. Res. Code, §§ 25552 (d) & (e), and citing Pub. Res. Code § 25523.) [BACT, offsets, and LORS compliance are gauged according to standards applicable at the time of construction.]¹³

¹³ For ease of reference, all of the Committee's prior rulings in this matter are set forth in Appendix E.

On November 15, 2001, the Committee extended the LECEF schedule to accommodate required discovery and reports from sister agencies.¹⁴ After our Prehearing Conference, Applicant filed a petition and several motions that requested the Committee to:

(a) Issue a Committee Schedule that allows for a Final Commission Decision on the Application for Certification (AFC) no later than April 17, 2002;

(b) Authorize certain pre-construction activities that are enumerated in the Petition as follows:

- Mobilize Construction Trailers – this activity involves leveling an approximately 5 to 7 acre area, placing gravel over the area for dust and mud control, moving and parking construction trailers onto the site and obtaining power and telephone service including the installation of approximately two 25 foot power poles;
- Establish Parking Area – the activity involves leveling an approximately 5 acre area, placing gravel to control dust and mud, establishing best management practices for erosion control as described by the construction Storm Water Pollution Prevention Plan (hay bales, silt fences, wattles, etc);
- Establish Construction Laydown – this activity involves leveling an approximately 10-15 acre area, placing gravel to control dust and mud, establishing best management practices for erosion control as described by the construction Storm Water Pollution Prevention Plan (hay bales, silt fences, etc), and staging plant equipment and construction materials, and parking construction equipment;
- Excavate power block and cooling tower foundations;
- Excavate underground utility trench;
- Set conduit in underground utility trench;

¹⁴ Section 25552 is flexible in its application to the extent that it expressly provides that the process may be extended beyond four months to "any later time mutually agreed upon by the commission and the applicant, provided that the thermal powerplant and related facilities remain likely to be in service on or before December 31, 2002." (Pub. Res. Code § 25552 (c)).

- Set reinforcing steel bars in power block and cooling tower foundations; and
- Set forms around power block and cooling tower foundations.

The Committee summarily denied Applicant's Petition, (Appendix E.) Applicant subsequently filed a motion for reconsideration, which the Committee heard as the first order of business at the March 11, Evidentiary Hearing. (3/11/02 RT 8:2-29: 6; Ex. 4F, p. 53.) On March 21, 2002, the Committee denied the motion for reconsideration upon the identical grounds as the original petition. (See Appendix E.)

In reviewing Applicant's various motions to expedite our process, the Committee was mindful of Applicant's energy contract with the state Department of Water Resources (DWR) for LECEF to supply energy to the grid in 2002. Upon Applicant's request, however, the Committee ruled that the DWR contract as an emergency measure was outside the scope of our proceedings and would not be addressed further. The Committee later applied that ruling at our March 11, Hearing when the Coalition sought, over Applicant's objection, to introduce matters related to energy costs in the DWR contract. (*Cf.* 3/11/02 RT 584:18-586:12 & 638:6-641:11; 645:3-651:4.)

During the March 11, 2002 Hearing, Applicant advocated an expedited schedule, which would call for two, 10-hour shifts--essentially construction around the clock. (3/11/02 RT 572:18-574:5.) In reviewing Applicant's plans to expedite the construction schedule, we concluded that the AFC was ambiguous on the question of 24-hour construction, and that Staff had not evaluated those impacts. In addition, we concluded that Applicant had not carried its burden under section 25552 to demonstrate that LECEF could be in service by December 31, 2002. Therefore, we decided that the AFC should fall be removed from the four-month process and converted to a 12-month AFC as set forth in Public Resources Code section 25540.6. (Appendix E.) In concurrent orders dated April 25, 2002, the

Committee, *inter alia*, removed the AFC from the four-month process and ordered an Evidentiary Hearing on May 20, 2002

On May 20, 2002, the committee conducted a supplemental evidentiary hearing to consider additional evidence on the expedited construction schedule and the visual resources issues contested by Milpitas. Staff and Applicant presented evidence on 24-hour construction impacts and the likelihood that the project could be in service by December 31. Thereafter, in an order dated May 21, 2002, the Committee found that the record, as augmented, supported a finding that Applicant had met its burden under section 25552. Accordingly, we granted Applicant's request to reinstate the AFC to the expedited process set forth in section 25552. (Appendix E.)

D. THE ENERGY COMMISSION'S SITE CERTIFICATION PROCESS

LECEF and its related facilities fall within Energy Commission licensing jurisdiction. (Pub. Resources Code, §§ 25500 et seq.). During its licensing proceedings, the Commission acts as lead state agency under the California Environmental Quality Act (CEQA). (Pub. Resources Code, §§ 25519(c), 21000 et seq.) The Commission's process and associated documents are functionally equivalent to the preparation of an Environmental Impact Report under CEQA. (Pub. Resources Code, § 21080.5.)

The Commission's process is designed to allow the review of a project to be completed within a specified period; a license issued by the Commission is in lieu of other state and local permits. The Commission's certification process provides a thorough and timely review and analysis of all aspects of this proposed project. During the process, we conduct a comprehensive examination of a project's potential economic, public health and safety, reliability, engineering, and environmental ramifications.

Significantly, the Commission's process allows for and encourages public participation so that members of the public may become involved either informally, or on a more formal level as Intervenor with the same legal rights and duties as the project developers. The Commission encourages public participation at every stage of the process.

The process begins when an applicant submits its Application for Certification (AFC). Commission staff reviews the data submitted as part of this AFC and determines whether or not it contains adequate information to permit review to commence; and makes recommended findings to the Commission. Once the Commission determines that an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the review process. The Commission also appoints a hearing officer to provide legal assistance to the Committee in each case. This process includes holding public conferences and evidentiary hearings, as well as providing a recommendation to the full Commission concerning a project's ultimate acceptability. The Committee, and ultimately the Commission, serves as fact-finder and decision-maker.

The Commission has a Public Adviser. The role of the Commission's Public Adviser is to assist members of the public and intervenors with their understanding of and participation in the Commission's siting process.

All parties, including the Applicant, Commission staff, and all Intervenor, are subject to the Commission's *ex parte* rule, which prohibits them from communicating on substantive matters with Committee members, other Commissioners, their staffs, and the hearing officer, except for communications which are on the public record.

The initial portion of the certification process is weighted heavily toward assuring public awareness of the proposed project and obtaining such further technical information as is necessary. During this time, the Commission staff sponsors

numerous public workshops at which intervenors, agency representatives, members of the public, Staff, and Applicant meet to evaluate and resolve pertinent issues. Staff then publicizes its initial technical evaluation of the project in the document called the Staff Assessment (SA).¹⁵

Following completion of the SA and any supplements thereto, the Committee conducts a Prehearing Conference to assess the adequacy of the available information, identify issues, and determine the positions of the various participants. Information obtained from this event forms the basis for a Hearing Order organizing and scheduling formal evidentiary hearings. These hearings are conducted after Staff has finalized its technical evaluation of the project.

At the evidentiary hearings following the release of the final SA all participants that have become formal parties are able to present testimony, under oath or affirmation, which is subject to cross-examination by other parties and to questioning by the Committee. The public may also comment on the proposed project at these hearings. Evidence and public comment adduced during these hearings provide the basis for the decision-makers' analysis.

This analysis appears in a Committee recommendation to the full Commission in the form of a Presiding Member's Proposed Decision, which is available for a public-review period of at least 30 days. Depending upon the extent of revision necessary in response to comments received during this period, the Committee may elect to publish a revised version. If so, this latter document triggers an additional 15-day public comment period. Finally, the full Commission decides whether to accept, reject, or modify the Committee's recommendations at a public hearing.

¹⁵ The SA is equivalent to the "Preliminary Staff Assessment in a 12-month process. After a period of Staff Workshops and comments on the SA, it is enhanced with a Staff Supplement. The Supplement and the SA are equivalent to the "Final Staff Assessment" in a 12-month process.

E. PROCEDURAL HISTORY

The Public Resources Code and the Commission's regulations mandate a public process and specify the occurrence of certain necessary events. (Pub. Res. Code, §§ 25500 et seq.; Cal. Code of Regs., tit. 20, §§ 1701, et seq.) The essential procedural elements occurring during the present case are summarized below.

On August 7, 2001, the Applicant submitted its Application for Certification (AFC). Shortly thereafter, Staff sent a "request for agency participation" to those governmental agencies likely to have an interest in the project. On September 25, 2001, the full Commission determined that the Applicant had made its AFC sufficiently informative and complete to commence the expedited review process set forth in Public Resources Code, section 25552.

On October 16, 2001, the Committee noticed its initial event, an "Informational Hearing and Site Visit." The Notice was sent to all known to be interested in the proposed project, including owners of land adjacent to, or in the near vicinity of, LECEF; it was also published in local general circulation newspapers.

On November 5, 2001, the Committee conducted the Informational Hearing and Site Visit in the community of Alviso. There, the Committee and other participants discussed the proposed project, described the Energy Commission's review process, and identified opportunities for public participation. During a temporary adjournment of the hearing, Applicant hosted a tour of the proposed power plant site.

On November 15, 2001, the Committee issued its required Scheduling Order in the form of a "Committee Ruling on Expedited Review and Scheduling Order. Therein, the Committee found that LECEF had the potential to conform to a four-

month expedited review, as extended by the Committee, subject to further discovery and the filing of required reports from sister agencies.

On December 31, 2001, Staff released its Staff Analysis and afterward held various workshops to receive comments thereon. On February 5, 2002, Staff issued its Supplement to the Staff Analysis. On February 25, 2002, the Committee held a Prehearing Conference ¹⁶. Evidentiary Hearings were scheduled by Notice of Evidentiary Hearings, dated on February 25, 2002. On March 11, 2002, according to the Notice of Evidentiary Hearings, the Committee conducted evidentiary proceedings in the City of San Jose.

Thereafter, by concurrent orders dated April 25, 2002, this Committee:

- Converted the AFC review process in this matter from the four-month process established in Public Resources Code section 25552 to the 12-month process set forth in Public Resources Code section 25540.6;
- Reopened the Evidentiary Record for augmentation by the parties; and
- Scheduled a supplemental Evidentiary Hearing on May 20, 2002.

The Committee, after reviewing and compiling the evidentiary record, published this (PMPD) on May 29, 2002. The Committee scheduled June 22, 2002, for the Committee Conference on the PMPD. Based upon the Committee Conference, and any other comments received, the Committee may issue revisions to the PMPD. If substantial revisions are contemplated to the PMPD, the Committee may elect to issue a Revised PMPD. If this occurs, the parties will have an additional 15-day comment period in which to address any concerns. Thereafter, the CEC will issue its Final Decision on the LECEF.

¹⁶ At the Prehearing Conference conducted on February 25, the Committee conducted issue identification with the parties and addressed issues of special concern to the parties such as pending motions. Also discussed were time concerns the Committee had regarding conclusion of the evidentiary proceedings in a single day.

I. PROJECT DESCRIPTION AND OBJECTIVES

SUMMARY OF THE EVIDENCE

Calpine is proposing to construct and operate the LECEF near the intersection of State Route (SR) 237 and Zanker Road, at 1515 Alviso-Milpitas Road, in the City of San Jose, Santa Clara County, California. Alviso-Milpitas Road serves as an access road parallel to SR 237, connecting McCarthy Boulevard and Zanker Road. The project location lies directly north of SR 237 and east of Zanker Road. (See **Figure 1** below.)

LECEF is proposed for 15 acres of a 55-acre site that is, in turn, a portion of a 174-acre property that the City of San Jose recently annexed from an unincorporated section of Santa Clara County. In addition to the LECEF, the 174-acre parcel has planned uses which are in the development stage: the Pacific Gas & Electric (PG&E) Los Esteros Substation, and the planned US DataPort (USD) Planned Development Zoning Project (PDZ).¹⁶ (Ex. 1, p.3-2.)

LECEF, in the Phase-I stage, is a proposed 180-megawatt (MW), natural gas-fired, simple-cycle power plant that would consist of four General Electric LM6000 Sprint Combustion Turbine Generators (CTG's). Each CTG would be contained in a metal acoustical enclosure with installed fire detection and suppression equipment. A single lube-oil cooler, a diesel-powered fire pump, and a 750-kW emergency natural gas-fired generator will service all four CTG's. Each CTG would generate a nominal 45MW under conditions specified by the California Independent System Operator (Cal-ISO). (Ex. 1, p. 3-2.).

The CTG inlet air is chilled for power augmentation. Water injection into the CTGs also augments power and lowers NOx formation during combustion. SCR systems at the exhaust stack transition will further control NOx at five parts per million by volume

(ppmvd), corrected to 15 percent oxygen. An oxidation-catalyst system will control carbon monoxide emissions to six ppmvd at 15 percent oxygen.¹⁷ Precursor organic compounds (POC's) are controlled to two ppmvd at 15 percent oxygen. LECEF will employ continuous emissions monitoring systems (CEMS) to measure compliance, and to monitor system efficiency. (Ex. 1, p. 3-2.)

Four, 13.8-kV underground output cables from the four generating system transformers will eventually provide LECEF a transmission connection to the planned PG&E Los Esteros Substation.¹⁸ Each of the four output cables will connect by isolated phase bus to individual, oil-filled generator step-up transformers, which will increase the voltage to 115 kV. The high-voltage side of each transformer will connect to PG&E's Los Esteros Substation via an open-air, 115-kV switchyard located on the LECEF site. (Ex. 1, p. 3-5.)

A 550-foot (lineal) 10-inch diameter pipeline interconnect to PG&E's Main Pipeline directly south of the proposed site along Alviso-Milpitas Road, will supply LECEF with natural gas. (Ex. 1, p. 4.9-5.)

No potable water pipeline for the LECEF is planned, as trucked water delivery will provide all potable water to the facility. Recycled water supply for cooling and combustion systems will originate from the San Jose/Santa Clara Water Pollution

¹⁶ USD PDZ is a "Super Hub" server farm project that plans to make approximately 2.2 million square feet available for lease to clients. Computer server hubs need extremely reliable and consistent electrical energy, thus LECEF represents the Phase I component of the USD PDZ project.

¹⁷ CTG combustion air would flow through the inlet air filters and chiller coils and the associated air inlet ductwork, be compressed, and then flow to the CTG combustion chambers. There, injected natural gas ignites with compressed air and hot combustion gases expand through the CTG's turbine chambers causing them to rotate and drive the CTG's electric generators and compressors. These hot combustion gases then exit the turbine chambers, enter empty heat recovery steam generation (HRSG) shells, and exit to the atmosphere through 90-foot tall exhaust stacks. The HRSG shells would be in place to accommodate later combined-cycle operation; installation of steam generation equipment for simple-cycle operation is unnecessary. (Ex. 1, p. 3-2.)

¹⁸ Until the substation is constructed, PG&E and Cal-ISO have reviewed and approved a temporary connection via an approximately 2000-foot aboveground connection to the Nortech-Trimble 115-kV line near the intersection of Zanker Road and SR 237. The entire length of the temporary line lies on the LECEF site. (Ex. 1, p. 3-5.)

Control Plant (WPCP) (through the South Bay Water Recycling program). An approximately 1,000-foot water line, 18-24 inches in diameter, will connect to an existing pipeline, at a point parallel to SR 237. Peak water use at the proposed facility will be approximately 917 acre-feet per year (AFY).¹⁹ Water injection to control NOx emissions would account for approximately 42 percent of LECEF's total water requirements; cooling tower makeup-water will account for the balance. (Ex. 1, pp. 3.5; 4.9-6.)

Process water will be filtered and demineralized in four skid-mounted units each located near one of the CTGs. Microfiltration and reverse-osmosis systems will provide further processed water for NOx suppression. After being treated, this water will flow to storage tanks for use. Cooling-water processing will involve pH control, mineral-scale dispersing, corrosion control, and microbial-growth control. A 2,700-foot, waste-discharge pipeline, 12-15 inches in diameter, will discharge wastewater to an existing WPCP pipeline at a point near Zanker Road. Applicant will construct the pipeline along LECEF's proposed access road. (Ex. 1, pp. 3.5; 4.9-6.)

¹⁹Peak water consumption will be approximately 566 gallons per minute based on a hot day, under full-load operating conditions; or about 820,000 gallons per 24-hour day. Operating at 24 hours per day for a year would be equal to approximately 917 acre-feet per year. (Ex. 1, p. 3.5.)

PROJECT DESCRIPTION Figure 1
LECEF –Local Setting

Source: Ex. 1, Figure 1.

FINDING AND CONCLUSIONS

1. Applicant proposes to construct and operate the LECEF, a nominal, 180 MW simple-cycle natural gas-fired merchant power plant consisting of four turbine islands, a new, 115-kV switchyard, other power-generation equipment, emission control equipment, and ancillary facilities.
2. The project site is located in the Alviso community of north San Jose in Santa Clara County in an area recently annexed and rezoned for industrial development consistent with the LECEF.
3. Linear facilities include a temporary 2000 foot-interconnect to the PG&E-controlled grid, gas pipeline interconnections, recycled water supply and discharge pipelines, and an access road.

We conclude that the LECEF is described in sufficient detail to allow review in compliance with the provisions of both the Warren-Alquist Act and the California Environmental Quality Act (CEQA).

II. PROJECT ALTERNATIVES

The Commission is required during the AFC process to examine the feasibility of site and facility alternatives that may avoid or lessen the potential significant environmental impacts of a proposed project. (Pub. Resources Code, § 21080.5(b)(3)(A); Cal. Code of Regs., tit. 20, § 1765.)

We note that Applicant provided Alternatives analysis as part of the AFC. (Ex. 2, [Vol. 1], p. 1-4, § 1.4 & sec. 9.)²⁰ Staff also conducted an Alternatives analysis as part of its Staff Analysis of the LECEF project. Therefore, this Decision complies with the “CEQA guidelines”, which require:

an evaluation of the comparative merits of “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...”, as well as an evaluation of the “no project” alternative. (14 CCR, § 15126 (d).)

The range of alternatives that we are required to consider is governed by a “rule of reason”. This means that our consideration of alternatives may be limited only to those:

that would avoid or substantially lessen any of the significant effects... while continuing to attain most of the basic objectives of the project, and need not include those alternatives whose effects cannot be reasonably ascertained and whose implementation is remote and speculative. (14 CCR, § 15126 (d) (5); Ex. 19D, Part III, p. 7.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence of record addresses alternatives to the LECEF project’s major components. This includes generation technology, site selection, and linear

²⁰Although Applicant’s AFC was not required to contain a discussion of site alternatives, the Commission’s CEQA duty remained unchanged. (See Pub. Resources Code, § 25540.6 (b).)

facility routing. The methodology used to prepare the alternatives analysis includes:

- Identifying the basic objectives of the project;
- Providing an overview of the project's potentially significant adverse impacts (including appurtenant facilities);
- Identifying and evaluating alternatives to the project;
- Identifying and evaluating alternative locations for sites; and
- Evaluating the impacts of not constructing the project. (Exs. 1 p. 5.6-2; 2, [Vol. 1], § 9.)

1. Project Objectives

Staff summarized Applicant's objectives for constructing the LECEF project as follows:

- To provide electrical energy in the newly deregulated power market;
- To be located near key infrastructure including transmission line interconnections, supplies of natural gas, and recycled water;
- To provide a reliable source of energy for the future U.S. Dataport facility, mitigating the effects of the diesel-fueled energy center proposed in that original development;
- To add support and reliability to the North San Jose Transmission Reinforcement Project recently approved by the CPUC;²¹ and for LECEF; and
- To be on line for the summer of 2002. (3/11/02 RT 616:16-618-3, 625:4-628:23; Ex. 1, p. 5.6-3.)

2. Potentially Significant Adverse Impacts

The environmental impacts of the project are discussed in detail in the individual subject areas of this Decision. However, in its Alternatives analysis Staff did not identify any potentially significant, unmitigated, adverse environmental impacts in any of the subject areas of discussion. Staff's conclusion and Applicant's ability

²¹ LECEF is also referred to as the North San Jose Project. (Ex. 2, [Vol. 1], § 1.3.1.) PG&E's Los Esteros Substation is referred to as the North San Jose Transmission Reinforcement Project. (3/11/02 RT 609:12-611-13.)

to mitigate impacts to levels of insignificance is discussed under the respective topics. (Ex. 1, p. 5.6-3/4.)

3. Technological Alternatives

Applicant and Staff reviewed various alternative technologies that can be grouped according to the fuel used, which include:

- Oil and natural gas;
- Coal;
- Nuclear reactions (usually using radioactive materials as fuel);
- Water (hydro, ocean conversion, geothermal);
- Biomass;
- Municipal solid waste; and
- Solar radiation. (Exs. 1, p. 5.6-9/10; 2, [Vol. 1], § 9.6.2; 4K, p.15.)

Biomass generation uses a waste vegetation fuel source such as wood chips (the preferred source) or agricultural waste. The fuel is burned to generate steam. However, Staff found that biomass facilities generate substantially greater quantities of air pollutant emissions than natural gas burning facilities. In addition, biomass plants are typically sized to generate less than 20 MW, which is substantially less than the capacity of the 180 MW LECEF project. (Ex. 1, p. 5.6-2.)

Geothermal technologies use steam or high-temperature water (HTW) obtained from naturally occurring geothermal reservoirs to drive steam turbine/generators. There are vapor-dominated resources (dry, super-heated steam) and liquid-dominated resources where various techniques are utilized to extract energy from the HTW. Staff concluded that:

- limited to areas that have geologic conditions resulting in high subsurface temperatures, and
- there are no viable geothermal resources in the San Jose or Santa Clara County area. (Ex. 1, p. 5.6-10.)

Hydropower facilities require large quantities of water (either stored or flowing water), and sufficient topography to allow power generation as water drops in elevation and flows through a turbine. These facilities are generally dependent on water flow to generate power, so they cannot serve immediate demand like a peaker plant does. Thus, Staff concluded that water flow required for power generation is not available in the project area. (Ex. 1, p. 5.6-10.)

Staff also reviewed measures such as conservation and demand-side management, which were deemed inadequate to provide power for the objectives that could be attributed to the LECEF. (3/11/02 RT 618:622-18; Ex. 1, p. 5.6-9.)

Accordingly, Staff concluded that:

- Because of the typically lower efficiencies, specific resource needs, and intermittent availability of alternative generation technologies, they do not fulfill a basic objective of the LECEF, which is to provide reliable peak power upon demand;
- No alternative technology could practically supply the power needed to support either the U.S. Dataport or the North San Jose Transmission Reinforcement Project; and
- Consequently, geothermal, hydropower, solar, wind and biomass technologies do not present feasible alternatives to the proposed project. (3/11/02 RT 617:6-618-3.)

We concur with the analysis provided by the Applicant and Staff. We do not believe that the cross-examination proffered by the Coalition and Mr. Garbett fundamentally undermined the Alternatives analysis undertaken by Applicant and Staff.²²

²² We have also reviewed the Coalition's documents and testimony presented at the March 11 Evidentiary Hearing. Although clear, cogent and helpful, we are unpersuaded by the Coalition's premise that the LECEF project should be contingent on USD in light of the immediate benefits it may offer to the grid in the near term. (Ex. 6, p. 7.)

4. Alternative Locations

Our record indicates too that Applicant and Staff evaluated several alternate site locations. Staff has requested and we approved taking official notice of the Metcalf Energy Center Commission Decision (99-AFC-3) (Metcalf), Chapter VII, Project Alternatives and the Project Alternatives section of the Metcalf FSA.²³

Applicant states in reference to its selection of the LECEF site that:

[I]n the Metcalf Energy Center Final Staff Assessment, Commission staff analyzed the potential of the proposed project site as an alternative location (Alternative 1) and determined that the proposed project site would not result in unmitigated significant impacts. Therefore, additional alternative sites were rejected from consideration. (Ex. 2, [Vol. 1], § 9.3.2.)

Staff applied evaluation criteria for each site using the standards:

- a. Will the alternative site fulfill the project objectives?
- b. Will it reduce the potential significant impacts identified for the proposed project? and,
- c. Will it cause other significant environmental impacts? (Exs. 1, p. 5.6-4; 2, [Vol. 1], § 2.2.14.)

Following the stated objectives for LECEF as set forth in the AFC, Staff examined two site alternatives:

- The Avendale Redevelopment Area located in South San Jose; and
- The Cilker property and a portion of the WPCP buffer lands to the north and east of the current site. (Ex. 1, p. 5.6-4; Ex. 2, [Vol. 1], § 2.2.14.)

Each site was found deficient in some important locational or environmental aspect and neither alternative was clearly superior when compared to the proposed site. (Exs. 1, p. 5.6-4; 2, [Vol. 1], § 9.3.1.)

²³ We also granted Staff's request for us to take official notice of Chapter III.E ("Local System Effects"), and Chapter VI.C. ("Visual Resources"), from the Metcalf Decision, and Staff's corresponding FSA in these identical areas. As part of our order, we granted Applicant's requests in the area of Land Use. (See Appendix E.)

5. No Project

CEQA Guidelines and Energy Commission regulations require us to consider the “No Project” Alternative. This alternative assumes that the project is not constructed, and the impacts of that scenario are compared to those of the proposed project. In this regard, we note that the LECEF is proposed under the Energy Commission’s expedited power plant review process, which is intended to provide power within a short timeframe to serve California’s growing demand. (Ex. 1, p. 5.6-7.)

Conceptually, the LECEF is itself a portion of a planned development acknowledged by the City of San Jose when it annexed and rezoned the area for the USD project. The City took LECEF into consideration when it approved the USD project with the proviso that it develop an alternative backup generation source for the facility that would reduce air quality impacts.

The evidence of record provides us no persuasive reason to question the City’s actions in this regard. We recognize that the USD project is far superior with rather than without LECEF. (3/11/02 RT 563:14-564:17; 566:2-15; Exs. 1, p. 4.1-7/8; 4K, pp. 14.)

Moreover, in recognition of the fact that a LECEF project objective is to provide electrical backup reliability for the USD project, Staff’s Analysis has reviewed the project as incorporated within and surrounded by USD, as well as standing alone. Again, in view of the project’s objectives, we believe that this dual analysis choice was proper given the City of San Jose’s land use decisions. For example:

- the USD project has already been proposed for a specific site;
- the City of San Jose annexed the land from an unincorporated area of Santa Clara County;
- the City of San Jose completed an extensive EIR; and based on that EIR;

- Rezoned the site consistent with the needs of USD and LECEF. (Ex. 1, p. 5.6-8.)

Given this background, we must concur with Staff's observation that there are no appropriate site alternatives for the LECEF project.

COMMISSION DISCUSSION

Applicant states in the AFC that the "No Project Alternative" would withhold increased peaking generation to serve the State's electricity demand. We accept the merit of this statement. In addition, Staff found that the "No Project" Alternative would eliminate the expected benefits that the LECEF project would bring. Specifically,

- Bolstered energy supplies for that region centered around the San Jose Northeastern Transmission System Reinforcement Project service area; [See Metcalf Decision, Chapter III.E, (Local System Effects, p. 86).]; and,
- In terms of other local benefits, which include increased property and sales taxes, employment, and sales of services. (Ex. 1, p. 5.6-8; see our section on **Socioeconomics**, *infra*.)

We give appropriate deference to the fact that Staff conducted a comprehensive Alternatives analysis in our *Metcalf* decision and we have given it official notice. Under these circumstances, we are simply not persuaded that it is necessary to second-guess Applicant's choice of the LECEF site. (3/11/02 RT 567:568-16; Appendix E.)

Finally, we reject the Coalition's advancement of an alternative irreversibly linking the LECEF to the USD project. Under the Coalition's alternative, our conditions would require USD's construction as a condition precedent to development of the LECEF. (3/11/02 RT 620:12-622-19.) Instead, we feel that LECEF's potential to supplement the grid with additional power in the short term is a benefit that outweighs simply the provision of power to the USD facility. Staff quite appropriately analyzed the project from that standpoint. We accept Staff's analysis.

FINDINGS AND CONCLUSIONS

Based upon the totality of the evidence of record, including that relating to each subject area contained in other portions of this Decision, we find and conclude as follows:

1. The evidence of record contains an acceptable analysis of a reasonable range of alternatives to the project as proposed.
2. The evidentiary record contains a review of alternative technologies, fuels, linear routings, and the “no project” alternative.
3. No alternative to the project considered by the Commission, including but not limited to the 'no project' alternative would avoid or lessen any direct, indirect, or cumulative significant adverse environmental impact.
4. No alternative to the project considered by the Commission, including but not limited to the 'no project' alternative is feasible, because none are capable of meeting the project objectives as specified in the Staff Analysis.

We therefore conclude that the evidence of record contains an analysis of possible alternatives to the LECEF project, including its appurtenant facilities, which satisfies the requirements of both the Warren-Alquist Act and CEQA and its implementing regulations.

III. COMPLIANCE AND CLOSURE

Public Resources Code section 25532 requires the Commission to establish a post-certification monitoring system. The purpose of this requirement is to assure that certified facilities are constructed and operated in compliance with applicable laws, ordinances, regulations and standards, as well as the specific Conditions of Certification adopted as part of this Decision.

SUMMARY OF THE EVIDENCE

The evidence of record contains a full explanation of the purposes and intent of the Compliance Plan (Plan). The Plan is the administrative mechanism by which the Commission ensures that the LECEF is constructed and operated according to the Conditions of Certification. It essentially describes the respective duties and Commission expectations of the project owner and the Commission Staff Compliance Project Manager (CPM) in implementing the design, construction, and operation criteria set forth in this Decision.

The Commission verifies compliance with the Conditions of Certification contained in this Decision through mechanisms such as periodic reports and site visits. The Plan also contains requirements governing the planned closure, as well as the unexpected temporary or permanent closure, of the project.

The Compliance Plan has two broad elements. The first element is the "General Conditions". These General Conditions:

- Set forth the duties and responsibilities of the CPM, the project owner, delegate agencies, and others;
- Set forth the requirements for handling confidential records and maintaining the compliance record;
- Establish procedures for settling disputes and making post-certification changes;

- State the requirements for periodic compliance reports and other administrative procedures necessary to verify the compliance status of all Commission-imposed conditions; and
- Establish requirements for facility closure.

The second general element of the Plan is the specific “Conditions of Certification”. These are found following the summary and discussion of each individual topic area in this Decision. The individual conditions contain the measures required to mitigate potentially adverse project impacts associated with construction, operation, and closure to an insignificant level. Each condition also includes a verification provision describing the method of assuring that the condition has been satisfied.

The contents of the Compliance Plan are intended to be read in conjunction with any additional requirements contained in the individual Conditions of Certification.

FINDINGS AND CONCLUSIONS

The evidence of record establishes:

1. The Compliance Plan and the specific Conditions of Certification contained in this Decision assure that the Los Esteros Critical Energy Facility will be designed, constructed, operated, and closed in conformity with applicable law.
2. Requirements contained in the Compliance Plan and in the specific Conditions of Certification are intended to be read in conjunction with one another.

We therefore conclude that the compliance and monitoring provisions incorporated as a part of this Decision satisfy the requirements of Public Resources Code section 25532. Furthermore, we adopt the following Compliance Plan as part of this Decision.

COMPLIANCE PLAN

GENERAL CONDITIONS OF CERTIFICATION

COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

A CPM will oversee the compliance monitoring and shall be responsible for:

1. ensuring that the design, construction, operation, and closure of the project facilities is in compliance with the terms and conditions of the Commission Decision;
2. resolving complaints;
3. processing post-certification changes to the conditions of certification, project description, and ownership or operational control;
4. documenting and tracking compliance filings; and,
5. ensuring that the compliance files are maintained and accessible.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints and amendments.

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval, it should be understood that the approval would involve all appropriate staff and management.

The Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Commission about power plant construction-or operation-related questions, complaints, or concerns.

Pre-Construction and Pre-Operation Compliance Meeting

The CPM may schedule pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Energy Commission's and the project owner's technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission's conditions of certification to confirm that they have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings shall ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight or inadvertence and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

Energy Commission Record

The Energy Commission shall maintain as a public record, in either the Compliance file or Docket file, for the life of the project (or other period as required):

1. all documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
2. all monthly and annual compliance reports filed by the project owner;
3. all complaints of noncompliance filed with the Energy Commission; and,
4. all petitions for project or condition changes and the resulting staff or Energy Commission action taken.

PROJECT OWNER RESPONSIBILITIES

It is the responsibility of the project owner to ensure that the general compliance conditions and the conditions of certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the conditions of certification or the general compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate.

Access

The CPM, responsible Energy Commission staff, and delegate agencies or consultants, shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

Compliance Record

The project owner shall maintain project files on-site or at an alternative site approved by the CPM, for the life of the project. The files shall contain copies of all “as-built” drawings, all documents submitted as verification for conditions, and all other project-related documents for the life of the project, unless a lesser period is specified by the conditions of certification.

Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files.

Compliance Verifications

Each condition of certification is followed by a means of “verification”. The verification describes the Energy Commission’s procedure(s) to ensure post-certification compliance with adopted conditions. The verification procedures, unlike the conditions, may be modified, as necessary by the CPM, and in most cases without full Energy Commission approval.

Verification of compliance with the conditions of certification can be accomplished by:

1. reporting on the work done and providing the pertinent documentation in monthly and/or annual compliance reports filed by the project owner or authorized agent as required by the specific conditions of certification;

2. appropriate letters from delegate agencies verifying compliance;
3. Energy Commission staff audits of project records; and/or
4. Energy Commission staff inspections of mitigation and/or other evidence of mitigation.

Verification lead times (e.g., 90, 60 and 30 days) associated with start of construction may require the project owner to file submittals during the certification process, particularly if construction is planned to commence shortly after certification.

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. **The cover letter subject line shall identify the involved condition(s) of certification by condition number and include a brief description of the subject of the submittal.** The project owner shall also identify those submittals **not** required by a condition of certification with a statement such as: "This submittal is for information only and is not required by a specific condition of certification." When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal.

The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed by the project owner or an agent of the project owner.

All submittals shall be addressed as follows:

**Compliance Project Manager
Los Esteros Critical Energy Facility (01-AFC-12)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814**

If the project owner desires Energy Commission staff action by a specific date, they shall so state in their submittal and include a detailed explanation of the effects on the project if this date is not met.

Compliance Reporting

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the Commission Decision. During construction, the project owner or authorized agent will submit Monthly Compliance Reports. During operation, an Annual Compliance Report must be submitted. These reports, and the requirement for an accompanying compliance matrix, are described below. The majority of the conditions of certification require that compliance submittals be submitted to the CPM in the monthly or annual compliance reports.

Compliance Matrix

A compliance matrix shall be submitted by the project owner to the CPM along with each monthly and annual compliance report. The compliance matrix is intended to

provide the CPM with the current status of all compliance conditions in a spreadsheet format. The compliance matrix must identify:

1. the technical area,
2. the condition number,
3. a brief description of the verification action or submittal required by the condition,
4. the date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.),
5. the expected or actual submittal date,
6. the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable, and
7. the compliance status for each condition (e.g., “not started”, “in progress” or “completed date”).

Completed or satisfied conditions do not need to be included in the compliance matrix after they have been identified as completed/satisfied in at least one monthly or annual compliance report.

Pre-Construction Matrix

Prior to commencing construction a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the CPM. This matrix will be included with the project owner’s **first** compliance submittal. It will be in the same format as the compliance matrix referenced above.

Tasks Prior to Start of Construction

Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Project owners frequently anticipate starting project construction as soon as the project is certified. In some cases it may be necessary for the project owner to file submittals prior to certification if the required lead-time for a required compliance event extends beyond the date anticipated for start of construction. It is also important that the project owner understand that pre-construction activities that are initiated prior to certification are performed at the owner’s own risk. Failure to allow specified lead-time may cause delays in start of construction.

Various lead times for verification submittals to the CPM for conditions of certification are established to allow sufficient staff time to review and comment, and if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

Monthly Compliance Report

The first Monthly Compliance Report is due the month following the Energy Commission business meeting date on which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the Key Events List. The Key Events List is found at the end of this section.

During pre-construction and construction of the project, the project owner or authorized agent shall submit an original and five copies of the Monthly Compliance Report within 10 working days after the end of each reporting month. Monthly Compliance Reports shall be clearly identified for the month being reported. The reports shall contain at a minimum:

1. a summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. documents required by specific conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Monthly Compliance Report;
3. an initial, and thereafter updated, compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);
4. a list of conditions which have been satisfied during the reporting period, and a description or reference to the actions which satisfied the condition;
5. a list of any submittal deadlines that were missed accompanied by an explanation and an estimate of when the information will be provided;
6. a cumulative listing of any approved changes to conditions of certification;
7. a listing of any filings with, or permits issued by, other governmental agencies during the month;
8. a projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification;
9. a listing of the month's additions to the on-site compliance file; and
10. any requests to dispose of items that are required to be maintained in the project owner's compliance file.
11. a listing of complaints, notices of violation, official warnings, and citations received during the month; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

Annual Compliance Report

After the air district has issued a Permit to Operate, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following:

1. an updated compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);
2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
3. documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Annual Compliance Report;
4. a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;
5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
6. a listing of filings made to, or permits issued by, other governmental agencies during the year;
7. a projection of project compliance activities scheduled during the next year;
8. a listing of the year's additions to the on-site compliance file, and
9. an evaluation of the on-site contingency plan for unexpected facility closure, including any suggestions necessary for bringing the plan up to date [see General Conditions for Facility Closure addressed later in this section].
10. a listing of complaints, notices of violation, official warnings, and citations received during the year; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

Confidential Information

Any information, which the project owner deems confidential shall be submitted to the Energy Commission's Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information, which is determined to be confidential, shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

Department of Fish and Game Filing Fee

Pursuant to the provisions of Fish and Game Code Section 711.4, the project owner shall pay a filing fee in the amount of eight hundred and fifty dollars (\$850). The payment instrument shall be provided to the Commission's Project Manager at the time of project certification and shall be made payable to the California Department of Fish

and Game. The Commission's Project Manager will submit the payment to the Office of Planning and Research at the time of filing of the notice of decision pursuant to Public Resources Code Section 21080.5.

Reporting of Complaints, Notices, and Citations

Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering, with date and time stamp recording. The telephone number shall be posted at the project site and easily visible to passersby during construction and operation.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the **NOISE** conditions of certification. All other complaints shall be recorded on the complaint form on the following page.

COMPLAINT REPORT/RESOLUTION FORM

PROJECT NAME: AFC Number:
COMPLAINT LOG NUMBER _____ Complainant's name and address: Phone number:
Date and time complaint received: Indicate if by telephone or in writing (attach copy if written): Date of first occurrence:
Description of complaint (including dates, frequency, and duration):
Findings of investigation by plant personnel: Indicate if complaint relates to violation of a CEC requirement: Date complainant contacted to discuss findings:
Description of corrective measures taken or other complaint resolution: Indicate if complainant agrees with proposed resolution: If not, explain: Other relevant information:
If corrective action necessary, date completed: Date first letter sent to complainant: _____(copy attached) Date final letter sent to complainant: _____(copy attached)
This information is certified to be correct. Plant Manager's Signature: _____ Date: _____

(Attach additional pages and supporting documentation, as required.)

FACILITY CLOSURE

At some point in the future, the project will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. Although the project setting for this project does not appear, at this time, to present any special or unusual closure problems, it is impossible to foresee what the situation will be in 30 years or more when the project ceases operation. Therefore, provisions must be made which provide the flexibility to deal with the specific situation and project setting which that exist at the time of closure. LORS pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure will be consistent with LORS in effect at the time of closure.

There are at least three circumstances in which a facility closure can take place, planned closure, unexpected temporary closure and unexpected permanent closure.

PLANNED CLOSURE

A planned closure occurs at the end of a project's life, when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence.

UNEXPECTED TEMPORARY CLOSURE

An unplanned unexpected temporary closure occurs when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster, or an emergency.

UNEXPECTED PERMANENT CLOSURE

An unplanned unexpected permanent closure occurs if the project owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes unexpected closure where the owner remains accountable for implementing the on-site contingency plan. It can also include unexpected closure where the project owner is unable to implement the contingency plan, and the project is essentially abandoned.

GENERAL CONDITIONS FOR FACILITY CLOSURE

PLANNED CLOSURE

In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least twelve months prior to commencement of closure activities (or other period of time agreed to by the CPM). The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.

The plan shall:

1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site.
2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;
3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and
4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

Also, in the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Commission may hold public hearings as part of its approval procedure.

In addition, prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Commission CPM for the purpose of discussing the specific contents of the plan.

As necessary, prior to, or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities, until Commission approval of the facility closure plan is obtained.

UNEXPECTED TEMPORARY CLOSURE

In order to ensure that public health and safety and the environment are protected in the event of an unexpected temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to mitigate public health and safety, and environmental impacts, are taken in a timely manner.

The project owner shall submit an on-site contingency plan for CPM review and approval. The plan shall be submitted no less than 60 days (or other time agreed to by the CPM) prior to commencement of commercial operation. The approved plan must be in place prior to commercial operation of the facility and shall be kept at the site at all times.

The project owner, in consultation with the CPM, will update the on-site contingency plan as necessary. The CPM may require revisions to the on-site contingency plan over the life of the project. In the annual compliance reports submitted to the Energy Commission, the project owner will review the on-site contingency plan, and

recommend changes to bring the plan up to date. Any changes to the plan must be approved by the CPM.

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days (unless other arrangements are agreed to by the CPM), the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment and the safe shutdown of all equipment (also see specific conditions of certification for the technical areas of Hazardous Materials Management and Waste Management).

In addition, consistent with requirements under unexpected permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports.

In the event of an unexpected temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure.

If the CPM determines that a temporary closure is likely to be permanent, or for a duration of more than twelve months, a closure plan consistent with that for a planned closure shall be developed and submitted to the CPM within 90 days of the CPM's determination (or other period of time agreed to by the CPM).

UNEXPECTED PERMANENT CLOSURE

The on-site contingency plan required for unexpected temporary closure shall also cover unexpected permanent facility closure. All of the requirements specified for unexpected temporary closure shall also apply to unexpected permanent closure.

In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the unlikely event of abandonment.

In the event of an unexpected permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

A closure plan consistent with that for a planned closure shall be developed and submitted to the CPM within 90 days of the permanent closure (or other period of time agreed to by the CPM).

DELEGATE AGENCIES

To the extent permitted by law, the Energy Commission may delegate authority for compliance verification and enforcement to various state and local agencies that have expertise in subject areas where specific requirements have been established as a condition of certification. If a delegate agency does not participate in this program, the Energy Commission staff will establish an alternative method of verification and enforcement. Energy Commission staff reserves the right to independently verify compliance.

In performing construction and operation monitoring of the project, the Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). The Commission staff retains this authority when delegating to a local CBO. Delegation of authority for compliance verification includes the authority for enforcing codes, the responsibility for code interpretation where required, and the authority to use discretion, as necessary, in implementing the various codes and standards.

Whenever an agency's responsibility for a particular area is transferred by law to another entity, all references to the original agency shall be interpreted to apply to the successor entity.

ENFORCEMENT

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Commission Decision. The specific action and amount of any fines the Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, inadvertence, unforeseeable events, and other factors the Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable laws, ordinances, regulations, and standards, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1230 et. seq., but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by current law or regulations.

INFORMAL DISPUTE RESOLUTION PROCEDURE

The following procedure is designed to informally resolve disputes concerning interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1230 et. seq., but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the matter must be referred to the full Energy Commission for consideration via the complaint and investigation process. The procedure for informal dispute resolution is as follows:

Request for Informal Investigation

Any individual, group, or agency may request the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within seven (7) working days of the CPM's request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report, within forty-eight (48) hours, followed by a written report filed within seven (7) days.

Request for Informal Meeting

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within fourteen (14) days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

1. immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. secure the attendance of appropriate Energy Commission staff and staff of any other agency with expertise in the subject area of concern as necessary;
3. conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and,
4. after the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1230 et. seq.

FORMAL DISPUTE RESOLUTION PROCEDURE-COMPLAINTS AND INVESTIGATIONS

If either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et. seq.

The Chairman, upon receipt of a written request stating the basis of the dispute, may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Title 20, California Code of Regulations, sections 1232 - 1236).

POST CERTIFICATION CHANGES TO THE COMMISSION DECISION: AMENDMENTS, INSIGNIFICANT PROJECT CHANGES AND VERIFICATION CHANGES

The project owner must petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, to 1) delete or change a condition of certification; 2) modify the project design or operational requirements; and 3) transfer ownership or operational control of the facility.

A petition is required for **amendments** and for **insignificant project changes**. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209. The criteria that determine which type of change process applies are explained below.

AMENDMENT

A proposed change will be processed as an amendment if it involves a change to the requirement or protocol (and in some cases the verification) portion of a condition of certification, an ownership or operator change, or a potential significant environmental impact.

INSIGNIFICANT PROJECT CHANGE

The proposed change will be processed as an insignificant project change if it does not require changing the language in a condition of certification, have a potential for significant environmental impact, and cause the project to violate laws, ordinances, regulations or standards.

VERIFICATION CHANGE

The proposed change will be processed as a verification change if it involves only the language in the verification portion of the condition of certification. This procedure can only be used to change verification requirements that are of an administrative nature, usually the timing of a required action. In the unlikely event that verification language contains technical requirements, the proposed change must be processed as an amendment.

KEY EVENT LIST

PROJECT _____

DATE ENTERED _____

DOCKET # _____

PROJECT MANAGER _____

<i>EVENT DESCRIPTION</i>	<i>DATE ASSIGNED</i>
Date of Certification	
Start of Construction	
Completion of Construction	
Start of Operation (1st Turbine Roll)	
Start of Rainy Season	
End of Rainy Season	
Start T/L Construction	
Complete T/L Construction	
Start Fuel Supply Line Construction	
Complete Fuel Supply Line Construction	
Start Rough Grading	
Complete Rough Grading	
Start of Water Supply Line Construction	
Completion of Water Supply Line Construction	
Start Implementation of Erosion Control Measures	
Complete Implementation of Erosion Control Measures	

IV. ENGINEERING ASSESSMENT

The broad engineering assessment conducted for the LECEF Power Project is comprised of individual analyses affecting the facility design, as well as the efficiency and the reliability of the proposed power plant. The subjects of this assessment include not only the power generating equipment, but other project-related elements such as the associated linear facilities (the transmission line, the natural gas supply pipeline, and the raw water supply pipeline).

A. FACILITY DESIGN

SUMMARY OF THE EVIDENCE

The facility-design portion of the engineering assessment combines four technical areas: civil engineering; structural engineering; mechanical engineering; and electrical engineering. (Ex. 1, p. 5.1-1.)

The project site is located in Seismic Zone 4, a designation indicating the highest level of potential earthquake-related shaking in California. (Ex. 1, p. 5.1-2.) To address this potentiality, major structures and components must be designed and constructed to conform to the analysis requirements of the most recent edition of the California Building Code.²⁴ (Ex. p. 5.1-3.)

Major mechanical features of the LECEF project include:

- four 45-MW combustion turbine generators burning natural gas, with dry-low NO_x combustors used to control NO_x;

²⁴ The 1998 edition of the California Building Code is currently in effect. (Ex. 1, 5.1-3.) Should this version be superseded by the time that the final plans for the LECEF are submitted, however, the successor version will be used. (*Ibid.*) Equipment items and components subjected to dynamic-analysis requirements will be described in detail prior to the start of that increment of construction of which they are a part. (Condition **STRUC-1**.)

- four shell heat recovery steam generators (HRSGs) with 90-foot tall stacks;
- a two-cell cooling tower for inlet air chillers;
- a Selective Catalytic Reduction Structure, Foundation and Connections for emissions control;
- a Transformer Foundation and Connections; and
- aqueous ammonia storage tank and use facilities. (Ex.1, pp. 3-2/3, & Figure 3²⁵; 5.1-7, Table 1.)

The mechanical systems will be designed in accordance with applicable codes and standards. (Ex.1, p. 5.1-3.)

The major electrical equipment associated with the project includes:

- a new 115 kV switchyard;
- four new underground transmission lines, up to 400-foot long, connecting with PG&E's planned Los Esteros Substation, and until the Substation is constructed;
- a temporary connection, via an approximately 2000-foot aboveground connection, located on LECEF property, to the Nortech-Trimble 115-kV line near the intersection of Zanker Road and SR237. (Ex. 1, pp. 3-5; 5.1-7&8.)

No potable water pipeline for the LECEF is planned, as trucked water delivery will provide all potable water to the proposed facility. Recycled water supply for all cooling and combustion systems will originate from the San Jose/Santa Clara Water Pollution Control Plant (WPCP) (through the South Bay Water Recycling program). The recycled water pipeline, approximately 1,000-feet long, will connect from the site to an existing pipeline, at a point parallel to SR 237. Peak water use at the proposed facility will approximate 917 acre-feet per year (AFY).²⁶

²⁵ Staff's Supplement (Exhibit 1A) to its Staff's Assessment substitutes a more complete Figure 3.

²⁶Peak water consumption will approximate 566 gallons per minute based on a hot day, full load operating conditions, or about 820,000 gallons per 24-hour day (x 1 year = approximately 917 AFY). Water injection to control NOx emissions would account for approximately 42 percent of LECEF's total water requirements; cooling tower makeup water will account for the balance. (Ex. 1, p. 3.5.)

Process water will be filtered and demineralized in four skid-mounted units located in the CTGs. Microfiltration and reverse osmosis systems will provide further processed water for NO_x suppression. After being treated, this water will flow to storage tanks for use. Cooling water processing will involve pH control, mineral scale dispersing, corrosion control and microbial growth control. A 2,700-foot wastewater discharge pipeline will discharge wastewater to an existing WPCP pipeline at a point near Zanker Road. Applicant will construct the pipeline along LECEF's proposed access road. (Ex. 1, p. 3.5.)

The testimony of record indicates the Conditions of Certification will ensure that the final design and construction of the proposed project complies with applicable standards. Contained in these Conditions are requirements specifying the roles, qualifications, and responsibilities of engineers overseeing project design and construction. The Conditions also require that no elements of construction proceed without approval from the local building official and that qualified special inspectors perform appropriate inspections required by the California Building Code. (See Condition **STRUC-1**.)

The environmental impacts of the project are discussed elsewhere in this Decision (for example, under topics such as Biological Resources and Noise). The testimony indicates that Facility Design considerations do not pose the potential for creating cumulative adverse impacts. Finally, the testimony addresses potential project closures under three scenarios: planned closure, unexpected temporary closure, and unexpected permanent closure. The testimony of record indicates that the general-closure provisions contained in the Compliance Plan (*ante*) and supplemented by our Conditions of Certification are sufficient to adequately address and minimize any potential adverse impacts associated with project closure.

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The evidence of record contains sufficient information to establish that the proposed facility can be designed and constructed in conformity with the applicable engineering laws, ordinances, regulations, and standards set forth in the appropriate portion of Appendix A of this Decision.
2. The Conditions of Certification set forth below are necessary to ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety concerns.
3. The Facility Design aspects of the proposed project do not create potential cumulative impacts.
4. The Conditions of Certification below, and the provisions of the Compliance Plan contained in this Decision, set forth requirements to be followed in the event of the planned, or the unexpected temporary, or the unexpected permanent closure of the facility.

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct and inspect the project in accordance with the 1998 California Building Code (CBC)²⁷ and all other applicable LORS in effect at the time initial design plans are submitted to the CBO for review and approval. The CBC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1, TSE-2 and TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol: In the event that the initial engineering designs are submitted to the CBO when a successor to the 1998 CBC is in effect, the 1998 CBC provisions identified herein shall be replaced with the

²⁷ The Sections, Chapters, Appendices and Tables, unless otherwise stated, refer to the Sections, Chapters, Appendices and Tables of the 1998 California Building Code (CBC).

applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

Verification: Within 30 days after receipt of the Certificate of Occupancy, the project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [1998 CBC, Section 109 – Certificate of Occupancy.]²⁸

GEN-2 Prior to submittal of the initial engineering designs for CBO review, the project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM when requested.

Verification: At least 60 days prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List, and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in Table 1 below. Major structures and equipment shall be added to or deleted from the Table only with CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

²⁸ Unless otherwise indicated, all day limitations are subject to an extension with agreement of the project owner and the CBO.

Table 1: Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Combustion Turbine Generator Foundation and Connections	4
SCR Unit Structure, Foundation and Connections	4
Transformer Foundation and Connections	4
CT Inlet Air Filter/Duct Structure, Foundation and Connections	4
Inlet Air Chillers Skid Foundation and Connections	4
Exhaust Stack Structure, Foundation and Connections	4
Fuel Gas Filter Foundation and Connections	4
Fuel Gas Compressor Foundation and Connections	1
Gas Turbine Enclosures Structure, Foundation and Connections	4
Potable Water Tank Foundation and Connections	1
Ammonia Storage Tank & Pump Foundation and Connections	1
Cooling Tower Foundation and Connections	1
Lube Oil Storage Room Structure, Foundation and Connections	1
Starting Hydraulic Skid Foundation and Connections	4
Performance Skid Foundation and Connections	4
Demineralized Water Filter Skid Foundation and Connections	4
Auxiliary Water Injection Pumps Foundation and Connections	4
Air Compressor/Air Dryer Foundation and Connections	1
Oil/Water Separator Foundation and Connections	2
Wash Water Drain Tank Foundation and Connections	2
Ammonia Vaporizer Skid Foundation and Connections	4
Switchgear Building Structure, Foundation and Connections	1
Black Start Generator Foundation and Connections	1
Fire Water Tank Foundation and Connections	1
Fuel Gas Metering Station Structure, Foundation and Connections	1
Fire Water Primary and Emergency Pump Foundation and Connections	1
Auxiliary Cooling Water Pump Foundation and Connections	1
Service/Administration Building Structure, Foundation and Connections	1

Equipment/System	Quantity (Plant)
Switchyard Control Room Structure, Foundation and Connections	1
115-kV Switchyard Building Structure, Foundation and Connections	1
Potable Water Systems	1 Lot
Drainage Systems (including sanitary drain and waste)	1 Lot
High Pressure and Large Diameter Piping	1 Lot
HVAC and Refrigeration Systems	1 Lot
Temperature Control and Ventilation Systems (including water and sewer connections)	1 Lot
Building Energy Conservation Systems	1 Lot
Switchyard, Buses and Towers	1 Lot
Electrical Duct Banks	1 Lot

GEN-3 The project owner shall make payments to the CBO for design review, plan check and construction inspection based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 1998 CBC [Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be as otherwise agreed by the project owner and the CBO.

Verification: The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next Monthly Compliance Report indicating that the applicable fees have been paid.

GEN-4 Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer or civil engineer, as a Resident Engineer (RE), to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24, § 4-209, Designation of Responsibilities)]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1, TSE-2 and TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol: The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project respectively. A project may be divided into parts, provided each part is clearly defined as a distinct unit. Separate assignment of general responsible charge may be made for each designated part.

The RE shall:

1. Monitor construction progress to ensure compliance with LORS;
2. Ensure that construction of all the facilities conforms in every material respect to the applicable LORS, these Conditions of Certification, approved plans, and specifications;
3. Prepare documents to initiate changes in the approved drawings and specifications when directed by the project owner or as required by conditions on the project;
4. Be responsible for providing the project inspectors and testing agency(ies) with complete and up-to-date set(s) of stamped drawings, plans, specifications and any other required documents;
5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and
6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests as not conforming to the approved plans and specifications.

The RE shall have the authority to halt construction and to require changes or remedial work, if the work does not conform to applicable requirements.

If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

Verification: At least 30 days prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the name, qualifications and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of

the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.

If the RE or the delegated engineer(s) are subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-5 Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; D) a mechanical engineer; and E) an electrical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1, TSE-2 and TSE-3** in the **Transmission System Engineering** Section of this document.

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all engineers assigned to the project. [1998 CBC, Section 104.2, Powers and Duties of Building Official.]

If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

Protocol: A: The civil engineer shall:

Design, or be responsible for design, stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems; and

Provide consultation to the RE during the construction phase of the project, and recommend changes in the design of the civil works facilities and changes in the construction procedures.

Protocol: B: The geotechnical engineer or civil engineer, experienced and knowledgeable in the practice of soils engineering, shall:

1. Review all the engineering geology reports, and prepare final soils grading report;
2. Prepare the soils engineering reports required by the 1998 CBC, Appendix Chapter 33, Section 3309.5 – Soils Engineering Report, and Section 3309.6 – Engineering Geology Report;
3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 1998 CBC, Appendix Chapter 33, section 3317, Grading Inspections;
4. Recommend field changes to the civil engineer and RE;
5. Review the geotechnical report, field exploration report, laboratory tests, and engineering analyses detailing the nature and extent of the site soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load; and
6. Prepare reports on foundation investigation to comply with the 1998 CBC, Chapter 18, section 1804, Foundation Investigations.

This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations. [1998 CBC, section 104.2.4, Stop orders.]

Protocol: C: The design engineer shall:

1. Be directly responsible for the design of the proposed structures and equipment supports;
2. Provide consultation to the RE during design and construction of the project;
3. Monitor construction progress to ensure compliance with LORS;
4. Evaluate and recommend necessary changes in design; and
5. Prepare and sign all major building plans, specifications and calculations.

Protocol: D: The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform with all of the mechanical engineering design requirements set forth in the Energy Commission's Decision.

Protocol: E: The electrical engineer shall:

1. Be responsible for the electrical design of the project; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-6 Prior to the start of an activity requiring special inspection, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section, 1701.5 Type of Work (requiring special inspection), and Section 106.3.5, Inspection and observation program. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1, TSE-2 and TSE-3** in the **Transmission System Engineering** Section of this document.

Protocol: The special inspector shall:

1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection;
2. Observe the work assigned for conformance with the approved design drawings and specifications;
3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action; and
4. Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable provisions of the applicable edition of the CBC.

A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels).

Verification: At least 15 days prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next Monthly Compliance Report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.

GEN-7 The project owner shall keep the CBO informed regarding the status of engineering and construction. If any discrepancy in design and/or construction is discovered, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this

condition of certification and, if appropriate, the applicable sections of the CBC and/or other LORS.

Verification: The project owner shall submit monthly construction progress reports to the CBO and CPM. The project owner shall transmit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

GEN-8 The project owner shall obtain the CBO's final approval of all completed work. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. When the work and the "as-built" and "as graded" plans conform to the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up "as-built" drawings for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the "as-built" drawings [1998 CBC, Section 108, Inspections.] The project owner shall retain one set of approved engineering plans, specifications and calculations at the project site or at another accessible location during the operating life of the project [1998 CBC, Section 106.4.2, Retention plans.

Verification: Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing final approved engineering plans, specifications and calculations as described above, the project owner shall submit to the CPM a letter stating that the above documents have been stored and indicate the storage location of such documents.

CIVIL-1 Prior to the start of site grading, the project owner shall submit to the CBO for review and approval the following:

1. Design of the proposed drainage structures and the grading plan;
2. An erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and

4. Soils report as required by the 1998 CBC, Appendix Chapter 33, Section 3309.5, Soils Engineering Report and Section 3309.6, Engineering Geology Report.

Verification: At least 15 days prior to the start of site grading, the project owner shall submit the documents described above to the CBO for review and approval. In the next Monthly Compliance Report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

CIVIL-2 The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible geotechnical engineer or civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area. [1998 CBC, Section 104.2.4, Stop orders.]

Verification: The project owner shall notify the CPM, within five days, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within five days of the CBO's approval, the project owner shall provide to the CPM a copy of the CBO's approval to resume earthwork and construction in the affected areas.

CIVIL-3 The project owner shall perform inspections in accordance with the 1998 CBC, Chapter 1, Section 108, Inspections; Chapter 17, Section 1701.6, Continuous and Periodic Special Inspection; and Appendix Chapter 33, Section 3317, Grading Inspection. All plant site-grading operations shall be subject to inspection by the CBO and the CPM.

Protocol: If, in the course of inspection, it is discovered that the work is not being done in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM. The project owner shall prepare a written report detailing all discrepancies and non-compliance items, and the proposed corrective action, and send copies to the CBO and the CPM.

Verification: Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR), and the proposed corrective action. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following Monthly Compliance Report.

CIVIL-4 After completion of finished grading and erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO's approval of the final "as-graded" grading plans, and final "as-built" plans for the erosion and sedimentation control facilities [1998 CBC, Section 109, Certificate of Occupancy.]

Verification: Within 30 days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

STRUC-1 Prior to the start of any increment of construction, the project owner shall submit to the CBO for review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for:

1. Major project structures;
2. Major foundations, equipment supports and anchorage;
3. Large field fabricated tanks;
4. Turbine/generator pedestal; and
5. Switchyard structures.

Construction of any structure or component shall not commence until the CBO has approved the lateral force procedures to be employed in designing that structure or component.

Protocol: The project owner shall:

1. Obtain approval from the CBO of lateral force procedures proposed for project structures;
2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (i.e., highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications [1998 CBC, Section 108.4, Approval Required];
3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures at least 90 days (or a lesser number of days mutually agreed to by the project owner and the CBO), prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [1998 CBC, Section 106.4.2, Retention of plans and Section 106.3.2, Submittal documents.]; and
4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations and specifications shall be signed and stamped by the responsible design engineer [1998 CBC, Section 106.3.4, Architect or Engineer of Record.]

Verification: At least 30 days prior to the start of any increment of construction, the project owner shall submit to the CBO, with a copy to the CPM, the responsible design engineer's signed statement that the final design plans, specifications and calculations conform with all of the requirements set forth in the Energy Commission's Decision.

If the CBO discovers non-conformance with the stated requirements, the project owner shall resubmit the corrected plans to the CBO within 20 days of receipt of the nonconforming submittal with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the applicable LORS.

STRUC-2 The project owner shall submit to the CBO the required number of sets of the following:

1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters);
2. Concrete pour sign-off sheets;
3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and
5. Reports covering other structure activities requiring special inspections shall be in accordance with the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section 1701.5, Type of Work (requiring special inspection), Section 1702, Structural Observation and Section 1703, Nondestructive Testing.

Verification: If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies to the CBO, with a copy of the transmittal letter to the CPM. The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 1998 CBC, Chapter 1, Section 106.3.2, Submittal documents, and Section 106.3.3, Information on plans and specifications, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give the CBO prior notice of the intended filing.

Verification: On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of

the transmittal letter to the CPM. The project owner shall notify the CPM, via the Monthly Compliance Report, when the CBO has approved the revised plans.

STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in Chapter 3, Table 3-E of the 1998 CBC shall, at a minimum, be designed to comply with Occupancy Category 2 of the 1998 CBC.

Verification: At least 30 days prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection

MECH-1 Prior to the start of any increment of major piping or plumbing construction, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in **Table 1**, condition of certification **GEN 2**, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of said construction [1998 CBC, Section 106.3.2, Submittal Documents, Section 108.3, Inspection Requests, Section 108.4, Approval Required; 1998 California Plumbing Code, Section 103.5.4, Inspection Request, Section 301.1.1, Approval].

Protocol: The responsible mechanical engineer shall submit a signed and stamped statement to the CBO when:

1. The proposed final design plans, specifications and calculations conform with all of the piping requirements set forth in the Energy Commission's Decision; and
2. All of the other piping systems, except domestic water, refrigeration systems and small bore piping have been designed, fabricated and installed in accordance with all

applicable ordinances, regulations, laws and industry standards, including, as applicable:

- American National Standards Institute (ANSI) B31.1 (Power Piping Code);
- ANSI B31.2 (Fuel Gas Piping Code);
- ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
- ANSI B31.8 (Gas Transmission and Distribution Piping Code);
- Title 24, California Code of Regulations, Part 5 (California Plumbing Code);
- Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);
- Title 24, California Code of Regulations, Part 2 (California Building Code); and
- Specific City/County code.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency [1998 CBC, Section 104.2.2, Deputies].

Verification: At least 30 days prior to the start of any increment of piping construction, the project owner shall submit to the CBO for approval, with a copy of the transmittal letter to the CPM, the above listed documents for that increment of construction of piping systems, including a copy of the signed and stamped engineer's certification of conformance with the Energy Commission's Decision. The project owner shall transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-2 For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by the applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of said installation [1998 CBC, Section 108.3 – Inspection Requests.]

Protocol: The project owner shall:

1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and
2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

Verification: At least 30 days prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for review and approval, final design plans, specifications and calculations, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.

MECH-3 Prior to the start of construction of any heating, ventilating, air conditioning (HVAC) or refrigeration system, the project owner shall submit to the CBO for review and approval the design plans, specifications, calculations and quality control procedures for that system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

Protocol: The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the applicable edition of the CBC. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of said construction. The final plans specifications and calculations shall include approved criteria, assumptions and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS [1998 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record.]

Verification: At least 30 days prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable edition of the CBC, with a copy of the transmittal letter to the CPM.

ELEC-1 Prior to the start of any increment of electrical construction for electrical equipment and systems 480 volts and higher, listed below, with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations [CBC 1998, Section 106.3.2, Submittal documents]. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS [1998 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the **Transmission System Engineering** section of this document.

Protocol: The following activities shall be submitted for CBO approval:

- A. Final plant design plans to include:
 - 1. One-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems; and
 - 2. System grounding drawings.

- B. Final plant calculations to establish:
 - 1. short-circuit ratings of plant equipment;
 - 2. ampacity of feeder cables;
 - 3. voltage drop in feeder cables;
 - 4. system grounding requirements;
 - 5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems; and
 - 6. lighting energy calculations.

C. The following activities shall be reported to the CPM in the Monthly Compliance Report:

1. receipt or delay of major electrical equipment;
2. testing or energization of major electrical equipment; and
3. a signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision.

Verification: At least 30 days prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for electrical equipment and systems 480 volts and greater, including a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

B. POWER PLANT RELIABILITY

Applicable law does not establish specific criteria for power plant reliability or procedures for ensuring reliable operation.²⁹ Nevertheless, the CEC is required to make findings concerning whether the project is likely to be operated in a safe and reliable manner. [(Cal. Code of Regs., tit. 20, § 1752 (c).)] Generally, a project is considered acceptable if it does not degrade the reliability of the utility system to which it is connected. In this regard, it is necessary to examine whether the LECEF is likely to achieve a level of reliability similar to that of other power plants on the system.

SUMMARY OF THE EVIDENCE

Applicant proposes to operate the LECEF throughout its intended life as a simple-cycle peaking power plant, selling peaking power through a contract with the California Department of Water and Power (CDWR) and providing load following and/or baseload power on the competitive market.³⁰ As a peaking power plant, the LECEF must be able to operate reliably in the summer for only a few hours per day without shutting down for maintenance or repairs. Maintenance and repairs will occur when the facility is shut down (at night, on weekends, and in the fall, winter and spring). The LECEF is expected to operate at an annual equivalent availability factor ranging from 92 to 98 percent. (Ex. 1, p. 5.4-2.)

Adequate levels of plant maintenance, equipment, fuel and water availability, and resistance to natural hazards ensures that acceptable reliability is achieved.

²⁹ Staff views a project as acceptable if it does not degrade the reliability of the utility system to which it is attached—it exhibits reliability equal to that of other power plants on the system. (Ex: 1, 5.4-1.)

³⁰The Warren-Alquist Act now allows a simple-cycle plant such as the LECEF to be operated within a period of three years and thereafter, it will be recertified modified, removed or replaced, with a cogeneration or combined-cycle powerplant. (Pub Res. Code, § 25552 (e) (5).)

Applicant will ensure equipment availability by applying appropriate quality assurance and control (QA/QC) programs during design, procurement, construction and operation of the plant. For example, equipment and supplies will be purchased from proven qualified suppliers in accordance with the Applicant's QA plan. Systems and components will be tested and inspected, and the QC program will be audited. During operation, the Applicant will provide for adequate maintenance and repair of all equipment and systems. Applicant's proposed maintenance and QA/QC programs will meet industry standards, and staff expects that this will allow the project to be adequately maintained to ensure acceptable reliability. (Ex. 1, p. 5.4-3.)

The evidence further indicates that there are and will continue to be adequate water and natural gas supplies and pipeline capacity to meet project needs. The LECEF will burn natural gas from PG&E's high-pressure backbone transmission system, lines 101 and 109, via a new 550-foot long, ten-inch diameter pipeline. PG&E's natural gas system provides access to gas from the Rocky Mountains, Canada and the Southwest; it represents a resource of considerable capacity. This system offers access to far more gas than the plant would require thus Staff and Applicant concur that there will be adequate natural gas supply and pipeline capacity to meet the project's needs. (Ex. 1, p. 5.4-3.)

The LECEF will obtain recycled water for gas turbine injection, inlet air chiller cooling and other plant uses from the San Jose/Santa Clara Water Pollution Control Plant via a new 1,000-foot long, 18 to 24 inch diameter pipeline. Truck deliveries will provide potable water. As staff noted in the staff assessment, there is no substantial consumptive use of cooling water, as would be the case with a combined-cycle power plant. Accordingly, Staff determined that recycled and potable water sources yield a sufficient likelihood of a reliable supply. (Ex. 1, p. 5.4-4; for further discussion of water supply, see that portion of our Decision entitled **Soil and Water Resources**.)

Moreover, the criteria specified in this Decision will ensure that the LECEF will be reasonably resistant to natural hazards such as flooding and seismic shaking. Staff concluded that there is no special concern with power plant functionality affecting electric system reliability due to seismic events.³¹ (Ex. 1, p. 5.4-4; see that portion of our Decision entitled **Facility Design**, *supra*, and the **Geology** and **Paleontology** portions, *infra*.)

FINDINGS AND CONCLUSION

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. There are no established specific criteria governing power plant reliability or procedures for ensuring reliable operation.
2. It is reasonable to use industry standards in assessing the reliability of the proposed project.
3. The estimated equivalent availability factor for the LECEF is from 92 to 98 percent.
4. The equipment availability, redundancy, maintenance, quality assurance, quality control, and facility design factors described in the evidence of record make it likely that the LECEF will meet industry norms for reliability.
5. Fuel supplies for the proposed project are available in quantities sufficient to ensure reliable project operation.
6. Water supplies for the proposed project are available in sufficient quantities to meet project needs.
7. The project will not degrade the overall reliability of the electrical system nor contribute to a cumulative adverse impact to such system.

³¹ The project site lies at an elevation of 14 feet above mean sea level. However, it does not lie within either a 100-year or a 500-year floodplain and Staff has concluded that flooding presents no threat to the project. Although the project site lies within Seismic Zone 4, the facility will be designed and constructed to the latest appropriate LORS. (Ex. 1, p. 5.4-4; see that portion of our Decision entitled **Facility Design**, *supra*.)

We conclude, that the project is likely to operate in an acceptably reliable manner. There are no conditions associated with power plant reliability.

C. POWER PLANT EFFICIENCY

The California Environmental Quality Act (CEQA) and its implementing regulations require us to consider a proposed power plant's:

- energy requirements and energy use efficiency;
- effects on local and regional energy supplies and resources;
- requirements for additional energy supply capacity; and
- compliance with existing energy standards
- whether there are any feasible alternatives that could reduce a wasteful, inefficient, and unnecessary consumption of energy. (Pub. Resources Code, § 21002.1; CCR, tit. 14, Appendix F.)

SUMMARY OF THE EVIDENCE

The evidence of record addresses:

- whether the LECEF will likely present any adverse impacts to energy resources;
- whether any adverse impacts would likely be significant and; if so,
- whether feasible mitigation measures exist to adequately reduce or eliminate them.

In this context, the energy resource of concern is natural gas, the fuel supply for the project. LECEF will be configured as four, simple-cycle gas turbine generators operating in parallel mode. Staff considers this configuration, with its short start-up time and fast ramping capability (increasing and decreasing electrical output to meet fluctuating load), well suited for providing peaking power. (Ex. 1, p. 5.3-4.)

The gas turbines will burn natural gas at a nominal rate up to 40.9 billion Btu per day (lower heating value). PG&E pipelines 101 and 109, which pass within 550 feet of the project site, will supply the natural gas. PG&E's infrastructure is extensive, offering access to vast reserves of gas from the Rocky Mountains, Canada and the Southwest. Energy Commission predictions are that natural gas supplies will be adequate to meet

the state's needs including electric generator demand for many years into the future. Thus, Staff concluded that supplies of natural gas and the means for transporting the fuel to the proposed project are more than adequate. (Ex. 1, p. 5.3-2.)

LECEF's four LM6000 Sprint gas turbines are among the most efficient machines now available. Each of the proposed gas turbine generators is nominally rated at 48.1 MW and 39.6 percent (LHV at International Standards Organization (ISO)) efficiency. (Ex. 1, p. 5.3-4.)

The LECEF's objective is to generate peaking, load following and/or baseload power, which will be sold on the spot market or via contract with the CDWR. Staff concluded that among the five alternate machines available to meet LECEF's objectives, the LM600 Sprint, with its incorporation of water spray intercooling between the machine's two compressor stages, yields greater net power output and higher fuel efficiency. In addition, at temperatures above 90°F, the Sprint machine enjoys a four percent increase in both power output and efficiency. (Ex. 1, p. 5.3-5.)

Staff concluded that:

- the project configuration (four, simple-cycle units in parallel) and generating equipment (LM 6000 Sprint simple-cycle gas turbine generators) appear to offer the most efficient, feasible combination to satisfy LECEF's objectives; and
- there are no peaking alternatives that could significantly reduce energy consumption. (Ex. 1, p. 5.3-6.)

In addition, Staff considered the cumulative impacts of Applicant's three projects in the adjoining area: Metcalf Energy Center (99-AFC-3) and Russell City Energy Center (01-AFC-7), both 600-MW projects, and LECEF. Staff concluded that construction and operation of the LECEF would not create any cumulative impacts on fuel supplies due to:

- (1) the robust nature of the deregulated market for natural gas, and
- (2) the active participation of the pipeline companies that compete to serve California.

Finally, Staff concluded that construction and operation of the LECEF would not bring about indirect impacts in the form of additional fuel consumption, that would not have occurred but for the LECEF. Due to the competitive nature of California's electric power market and a dearth of any significantly more efficient peaking power plants competing against LECEF, indirect impacts are unlikely. (Ex. 1, p. 5.3-6.) Within a period of three years, LECEF must be converted to a combined-cycle facility incorporating best available air emissions control technology, or be shut down.

FINDINGS AND CONCLUSION

Based on the uncontroverted evidence of record, we find and conclude as follows:

1. Applicant will employ gas turbines that are among the most fuel-efficient currently available.
2. The project will not create a substantial increase in demand for natural gas.
3. Available gas supplies exceed the fuel requirements of the proposed project.
4. The proposed project's turbine configuration and generating equipment offer the most efficient, feasible combination available to satisfy project objectives.
5. The operational efficiency of the proposed project is substantially equal to or exceeds that of other available technologies.
6. The proposed project will not consume natural gas in a wasteful, inefficient, or unnecessary manner and,
7. Within a period of three years, the proposed project will either be converted to a combined cycle facility, incorporating best available air emissions control technology, or be shut down.

CONDITION OF CERTIFICATION

EFF-1 The project owner shall either convert the project to a combined-cycle generating facility employing best available air emissions control technology, or shall close the plant permanently, within a period of three years from the date of this Energy Commission decision, in accordance with Public Resources Code section 25552(e)(5)(B).

Verification: Within one year of the date of this Energy Commission decision, the project owner shall submit to the CPM, for review and approval, a schedule for submitting an Application for Certification for conversion of the project to a combined-cycle facility employing best available air emissions control technology. Alternatively, within one year of the date of this Energy Commission decision, the project owner shall submit to the CPM, for review and approval, a schedule for submitting a Facility Closure Plan. Either the AFC or the Closure Plan shall be pursued on a schedule that ensures that the project will be either converted to a combined cycle facility or permanently closed within three years of this Energy Commission decision.

D. TRANSMISSION SYSTEM ENGINEERING

The Commission's analysis of the project's "Transmission System Engineering" factors includes evaluation of the outlet connecting lines, the power plant switchyard, termination facilities, and outlet alternatives. It also involves a determination of whether or not the project's transmission intertie facilities are likely to conform with all applicable laws, ordinances, regulations and standards intended to ensure safe and reliable electric power transmission and, if not, to determine appropriate mitigation measures. Under the California Environmental Quality Act (CEQA), the Commission must conduct an environmental review of the "whole of the action", which may include facilities not licensed by the Commission. (Cal. Code of Regs., tit. 14, § 15378.) This examination was coordinated with the evaluation performed by the California Independent System Operator (Cal-ISO) in order to determine the project's effects of the interconnected electrical grid.

SUMMARY OF THE EVIDENCE

Description

Applicant is seeking certification for two transmission line interconnections. The permanent transmission line will connect the LECEF to the Los Esteros Substation.³² Although the Los Esteros Substation will not be completed before the project commences operation, LECEF's interconnection to PG&E's 115kV transmission system and LECEF's operation is not dependent on the substation's construction. At the May 20, 2002 Evidentiary Hearing, Applicant produced a letter from PG&E that outlines the conditions for LECEF's interconnection before

³² The Los Esteros Substation is part of the Northeast San Jose Transmission Project that has been approved by the Cal-ISO, PG&E and, on December 17, 2001, by the PUC. Most of the power serving San Jose is delivered through the Metcalf and Newark Substations to the local bulk power network. The local network in San Jose consists of many 115 kV substations and transmission lines. The new Los Esteros Substation is part of a new 230 kV backbone for the existing 115 kV network in the San Jose area. (Ex. 1, p. 5.5-3.)

completion of PG&E Los Esteros Substation. Applicant cannot state definitively when the Los Esteros Substation will be constructed.³³ (3/11/02 RT 90:21-90:20; 5/20/02 RT ; Ex. 41, p. 23.)

Until the substation is constructed, PG&E and Cal-ISO have reviewed and approved a temporary connection via an approximately 2,000-foot aboveground connection to the Nortech-Trimble 115-kV line near the intersection of Zanker Road and SR 237. The temporary tie line is located entirely on the LECEF site. Both the temporary and permanent outlet lines are designed to transport approximately 180 MW in an acceptably reliable manner. (3/11/02 RT 90:21-91:8; Exs. 1, p. 3-5; 1F; 2FF.)

Interconnection between the LECEF and the Los Esteros Substation will consist of the following major facilities:

- A new 115 kV Air Insulated Substation (AIS) to be located on LECEF's property adjacent to the Los Esteros Substation. The AIS will consist of a highly reliable two bus, circuit breaker-and-a-half arrangement;
- Two new underground three-phase, single circuit, solid-dielectric, copper-conductor lines connecting the LECEF's AIS to the adjacent Los Esteros Substation switchyard;
- Three 115 kV circuit breakers in a breaker-and-a-half arrangement to make the 115 kV connections to the Los Esteros Substation. (Ex. 4F p. 53; see *also* Ex. 2, [Vol. 1], Figure 5.1-2.)

Because of the LECEF's physical proximity to the planned Los Esteros Substation site, the two transmission circuits will exit the switchyard underground and run to the northwest for approximately 400 feet.³⁴ They will then resurface

³³ Staff indicated that the CPUC approved the new substation proposal on December 11, 2001, but at a lower cost than that proposed by PG&E. As a result, PG&E is not certain whether or not it will go forward with project construction. (Ex. 1, p. 4.5-7.)

³⁴ Four 13.8-kV underground output cables from each of its four generating system transformers will eventually provide LECEF a transmission connection to the planned PG&E Los Esteros

and be connected to the planned 115 kV Los Esteros Substation switchyard. The two 115 kV line exits will be rated to allow for the removal of one of the circuits without limiting plant output. Since the interconnection will be contained entirely within the LECEF and Los Esteros Substation fences, no additional right-of-way will be required. (Ex. 4F, p. .53.)

Until the Los Esteros Substation is constructed, Applicant is proposing to transmit LECEF's power through a temporary 2000-foot wood pole line between the proposed project and PG&E's Nortech-Trimble line, near State Route (SR) 237. Applicant's temporary interconnection has been approved by PG&E and the Cal-ISO. PG&E will design, build and own the temporary tap-line. (3/11/02 RT 90:21-91:15; Exs. 1, p. 5.5-4; 4F, p. 53; 3D, p.34.)³⁵

At the May 20, 2002 Evidentiary Hearing, Applicant produced a Generator Interconnection Agreement (GIA) and a Generator Special Facilities Agreement (GSFA) executed with PG&E that detail the interconnection arrangement for the temporary tap-line. PG&E has determined in the System Impact Study that no capital system upgrades are necessary to mitigate potential impacts of the LECEF project. (5/20/02 RT; Exs. 4F1, p.23; 2FF.)

The California Independent System Operator (Cal-ISO) provided testimony that no system upgrades are needed until other generation projects are developed and additional transmission is constructed. Staff concluded that both the temporary and permanent interconnection configurations are acceptable and our

Substation. Each of the four outputs will connect by isolated phase bus to individual, oil-filled generator step-up transformers, which would increase the voltage to 115 kV. The high voltage side of each transformer will connect to PG&E's Los Esteros Substation via an open-air, 115-kV switchyard, to be located on the LECEF site. (Ex. 1, p. 3-5.)

³⁵ Easements are required from the local jurisdictions for construction of the tap-line interconnects and the Applicant is negotiating to obtain those easements. (Applicant Reply Brief, p. 17; 3/11/02 RT 91:16-93:14; 5/20/02 RT 221:5-222-5.)

Conditions will ensure their compliance with PUC GO 128 and PUC GO 95.³⁶ (3/11/02 RT 121:9-122:9; 122:21-124:24; 125:15-127:15; Ex. 1, p. 5.5-4; see Conditions **TSE 5**.)

Role of Cal-ISO

The interconnection of a new generator (and any associated modifications to the transmission system), if not properly designed and operated, could adversely impact the reliable operation of the state's electrical power system. The primary roles of the Cal-ISO, as they pertain to the interconnection of new generation, are to ensure and to coordinate the reliable operation of the Cal-ISO controlled electrical grid. (3/11/02 RT 122:21-18; Ex. 1F, p. 1.)

To achieve these goals, the Cal-ISO coordinates the planning of modifications to the grid to ensure they meet the Cal-ISO's Grid Planning Criteria. These criteria essentially incorporate all Western Systems Coordinating Council (WSCC) Reliability Criteria, the North American Electric Reliability Council (NERC) Planning Standards, and local-area-reliability-criteria. Commission staff relies on the Cal-ISO's determinations in formulating recommendations to the Commission. The Commission's review process includes Cal-ISO's determinations concerning conformance with applicable reliability standards, as well as the need for additional transmission facilities and any attendant environmental review necessitated by a particular project.

On June 21, 2001, Cal-ISO gave its preliminary approval for LECEF after reviewing the project's interconnection and costs reports prepared by PG&E,

³⁶ PUC General Order 95 (GO-95) are "Rules for Overhead Electric Line Construction." These safety rules formulate uniform requirements for construction of overhead lines. PUC General Order 128 (GO-128) are "Rules for Construction of Underground Electric Supply and Communications Systems." These safety rules establish uniform requirements and minimum standards to be used for underground supply systems to ensure adequate service and safety. (Ex. 1, p. 5.5-2.)

which owns the transmission system. On March 1, 2002, the Cal-ISO granted a conditional final approval based on its review of PG&E's Final Cost Report. The Cal-ISO concurred with PG&E's findings that interconnection of the LECEF generation project would not require the addition of downstream transmission facilities while temporarily connected to PG&E's Nortech-Trimble 115 kV transmission line. (Ex. 1F, pp. 1-3.)

The Cal-ISO's approval was conditional because of the uncertainty in the future system configuration and uncertainty in the development of other new generation plants in the area. (Ex. 1F, p. 1.) In large part, these uncertainties are tied to the Los Esteros Substation development and are not related to Applicant's temporary tap-line connection PG&E's Nortech-Trimble 115 kV transmission line. (Ex. 1, p. 5.5-4/10.) Finally, the evidence of record demonstrates that Applicant and Staff have considered transmission line alternatives and reviewed potential cumulative impacts of the LECEF when combined with other electricity generating projects located near San Jose. Data thus far suggests that addition of the LECEF project will not create any cumulative impacts in the near term. (Ex. 1, p. 5.5-9/10.)

FINDINGS AND CONCLUSION

Based on the uncontroverted evidence of record, we find and conclude as follows:

1. Applicant is seeking certification for two alternative transmission line interconnections.
2. Because of delays associated with construction of the Los Esteros Substation, the proposed project will initially require a temporary tap-line interconnect to PG&E's Nortech-Trimble line, near State Route (SR) 237.
3. PG&E will design, build and own the temporary tap-line. PG&E and Applicant have negotiated a Generator Interconnection Agreement (GIA) and a Generator Special Facilities Agreement (GSFA), for construction of the temporary tap-line interconnect.

4. Easements are required from the local jurisdictions for construction of the tap-line interconnects and the Applicant is currently negotiating to obtain those easements.
5. The final, permanent, interconnection of the LECEF will be through two, approximately 400 feet, 115 kV single circuit underground transmission lines connecting to the Los Esteros Substation when it is constructed.
6. Cal-ISO has determined that no system upgrades are needed while Applicant is temporarily connected to PG&E's Nortech-Trimble 115 kV transmission line.
7. Cal-ISO has conditionally approved LECEF's interconnection to the Los Esteros Substation subject to Applicant's consent to join certain remedial action schemes that will mitigate any adverse impacts to the reliability of the electrical system to less than significant.
8. Both proposed outlet lines from the LECEF project to the point of interconnection are designed to transport approximately 180 MW in an acceptably reliable manner.
9. There are no cumulative impacts arising from the LECEF project.
10. Conditions of Certification enumerated below will ensure that the transmission aspects of the LECEF project will be designed, constructed, and operated to conform with applicable LORS, which are identified in Appendix A of this Decision.

We therefore conclude that interconnection of the proposed project either through the temporary tap-line or at the Los Esteros Substation is acceptable, and that it will not result in the violation of any regulatory criteria pertinent to transmission system engineering.

CONDITIONS OF CERTIFICATION

TSE-1 The project owner shall furnish to the CPM and to the CBO a schedule of transmission facility design submittals, a Master Drawing List, a Master Specifications List, and a Major Equipment and Structure List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Verification: At least 60 days prior to the start of construction, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major equipment in **Table 1: Major Equipment List** below). Additions and deletions shall be made to the table only with CPM and CBO approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Equipment List
Breakers
Step-up transformer
Switchyard
Busses
Surge Arrestors
Disconnects
Take off facilities
Electrical Control Building
Switchyard control building
Transmission Pole/Tower

TSE-2 Prior to the start of construction the project owner shall assign an electrical engineer and at least one of each of the following to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; or D) a mechanical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.]

The tasks performed by the civil, mechanical, electrical or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil

structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer. The civil, geotechnical or civil and design engineer assigned in conformance with Facility Design condition **GEN-5**, may be responsible for design and review of the TSE facilities.

The project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all engineers assigned to the project. If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations.

The electrical engineer shall:

- A. Be responsible for the electrical design of the power plant switchyard, outlet and termination facilities; and
- B. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

TSE-3 The project owner shall keep the CBO informed regarding the status of engineering design and construction. If any discrepancy in design and/or construction is discovered, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification.

Verification: The project owner shall submit monthly construction progress reports to the CBO and CPM to be included in response to **TSE-3**. The project

owner shall transmit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

TSE-4 For the power plant switchyard, outlet line and termination, the project owner shall not begin any increment of construction until plans for that increment have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the Monthly Compliance Report:

- A. Receipt or delay of major electrical equipment;
- B. Testing or energization of major electrical equipment; and
- C. The number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: At least 30 days prior to the start of each increment of construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for equipment and systems of the power plant switchyard, outlet line and termination, including a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

TSE-5 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The substitution of Compliance Project Manager (CPM) and CBO approved "equivalent" equipment and an equivalent substation configuration is acceptable. The project owner shall submit the required number of copies of the design drawings and calculations as determined by the CBO.

- A. The power plant switchyard and outlet line shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC), CPUC GO 128, Title 8 of the California Code and Regulations (Title 8), Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", National Electric Code (NEC) and related industry standards.
- B. Breakers and buses in the power plant switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis.

- C. Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner's standards.
- D. Termination facilities shall comply with applicable PG&E interconnection standards.
- E. The project conductors shall be sized to accommodate the full output from the project.
- F. The project owner shall provide:
 - 1. The final Detailed Interconnection Facility Study (DIFS) including a description of facility upgrades, operational mitigation measures, and/or Remedial Action Scheme (RAS) sequencing and timing if applicable,
 - 2. Executed Generation Interconnection Facility Agreement,
 - 3. Verification of Cal-ISO Notice of Synchronization.

Verification: At least 60 days prior to the start of construction of transmission facilities, the project owner shall submit to the CBO for approval:

- A. Design drawings, specifications and calculations conforming with CPUC General Order 95 or NESC, CPUC GO 128, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.
- B. For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"³⁷ and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, CPUC GO 128, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards.
- C. Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements **TSE-5A** through **F** above.

³⁷ Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

- D. The Facilities Study and Generation Interconnection Facility Agreement shall be provided concurrently to the CPM and CBO.

TSE-6 The project owner shall inform the CPM and CBO of any impending changes, which may not conform to the requirements **TSE-5A** through **F**, and have not received CPM and CBO approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CBO and the CPM.

Verification: At least 60 days prior to the construction of transmission facilities, the project owner shall inform the CBO and the CPM of any impending changes which may not conform to requirements of **TSE-5** and request approval to implement such changes.

TSE-7 The applicant shall provide the following Notice to the California Independent System Operator (Cal-ISO) prior to synchronizing the facility with the California Transmission system:

- A. At least one (1) week prior to synchronizing the facility with the grid for testing, provide the Cal-ISO a letter stating the proposed date of synchronization; and
- B. At least one (1) business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 to 1530 at (916)-351-2300.

Verification: The applicant shall provide copies of the Cal-ISO letter to the CPM when it is sent to the Cal-ISO one (1) week prior to initial synchronization with the grid. A report of conversation with the Cal-ISO shall be provided electronically to the CPM one (1) day before synchronizing the facility with the California transmission system for the first time.

TSE-8 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC General Order 95 or NESC, CPUC GO 128, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

Verification: Within 60 days after first synchronization of the project, the project owner shall transmit to the CPM and CBO:

- A. “As built” engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC General Order 95 or NESC, CPUC GO 128, Title 8, Articles 35, 36 and 37 of the “High Voltage Electric Safety Orders”, NEC, CPUC Rule 21, applicable interconnection standards and related industry standards, and these conditions shall be provided concurrently.
- B. An “as built” engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. “As built” drawings of the mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the “Compliance Monitoring Plan;” and
- C. A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.

E. TRANSMISSION LINE SAFETY AND NUISANCE

LECEF's energy will be delivered to PG&E's power grid through two, short (approximately 250-feet) underground 115 kV circuits running between LECEF's new 115 kV switchyard and PG&E's proposed new Los Esteros Substation (LES).³⁸ Until LES is constructed, Applicant is proposing to transmit LECEF's power through a temporary 2,000-foot wood pole line between the proposed project and PG&E's Nortech-Trimble line, near State Route (SR) 237. (Ex. 3D, p. 34.) Applicant's temporary interconnection has been approved by PG&E and the Cal-ISO. PG&E will design, build, and own the temporary tap-line. (Ex. 1, p. 4.11-8.)

Transmission lines have the potential to cause both safety hazards and nuisance impacts. Therefore, Staff evaluated the lines to ascertain whether they would:

- create aviation safety hazards or interfered with radio frequency communication; or
- result in audible noise, fire hazards, nuisance shocks; or an undesirable level of exposure to electric and magnetic fields. (Ex. 1, p. 4.11-1)

In general, Staff found that existing overhead grid lines to be used during LECEF operations were designed by PG&E according to PG&E guidelines bearing on aviation safety, fire hazards, and hazardous shocks. (Ex. 1, p. 4.11-8.) Therefore, Staff concluded that the uses of these lines during LECEF's operations (without structural modification), in conjunction with the new temporary tap-line, are safe concerning these impacts.³⁹

³⁸ Since the line will be located entirely within the fence lines of LECEF and LES, no new right-of-way would be required for routing. (Ex. 1, p. 4.11-8.) The line's two circuits will be installed in separate burial conduits and will exit underneath the new LECEF switchyard, run northwest, and resurface within the LES switchyard, where they will be connected at specific receptor points. (*Ibid.*)

³⁹ Thus, Staff did not recommend any of the safety-related conditions of certification normally required for new or upgraded lines. (Ex. 1, p. 4.11-8.)

Moreover, Staff concluded that LECEF's proposed underground line does not pose an aviation hazard nor will it pose a shock hazard since the line will be designed according to GO-128 requirements.⁴⁰ (See Condition **TLSN-1**.)

SUMMARY OF THE EVIDENCE

Safety Hazards and Nuisance Impacts

The record demonstrates no hazards or impacts related to aviation safety, interference with radio frequency, shock fire or exposure to electric and magnetic fields (EMF) that would be likely to occur due to LECEF's construction and operation. (Ex. 1, p. 4.11-9-10.) These findings are summarized in Staff's Assessment as follows:

TRANSMISSION LINE SAFETY AND NUISANCE, TABLE 1

ENVIRONMENTAL CHECKLIST	Potentially Significant	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
TRANSMISSION LINE SAFETY AND NUISANCE -- Would project operation:				
a) Pose an aviation hazard to area aircraft?				X
b) Lead to interference with radio-frequency communication?				X
c) Pose a hazardous or nuisance shock hazard?				X
d) Pose a fire hazard?				X
e) Expose humans to higher electric and magnetic field levels than justified by existing knowledge?		X		

(Ex. 1, p. 4.11-9.)

⁴⁰ PUC General Order 95 provides "Rules for Construction of Underground Electric Supply and Communication Systems." The rules specify uniform statewide requirements for underground line construction regarding clearance, grounding techniques, maintenance, and inspection. (Ex. 1, p. 4.11-4.)

Applicant calculated the maximum field strengths along the routes of the existing overhead grid lines to be used by the proposed project to establish the potential contribution of LECEF to the EMF fields from the four potentially impacted 115 kV components.⁴¹ Applicant applied maximum power calculations using projected data from all future phases of the proposed project that were verified by Staff concerning parameters bearing on field strength dissipation and exposure assessment. Since underground lines result in the lowest intensities possible, Staff has not recommended any exposure-related changes to the proposed design or placement plan. (Ex. 1, p. 4.11-10.)

FINDINGS AND CONCLUSION

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The proposed transmission line to be constructed in conjunction with the proposed project is not likely to create fire hazards nor to cause safety hazards to aviation.
2. The electric and magnetic field strengths created by the project's transmission lines will be within acceptable limits, and will not create significant adverse human health impacts.
3. The project's transmission lines will not cause an unacceptable interference with radio frequency communications, nor create significant shock hazards to humans.
4. The Conditions of Certification below will ensure that the transmission lines are designed, constructed, and operated in compliance with the applicable laws, ordinances, regulations, and standards specified in the appropriate portion of Appendix A of this Decision.

⁴¹ Once the LES is constructed, power from LECEF will be transmitted from LES through four specific 115 kV lines (Los Esteros-Nortech, Los Esteros-Trimble, Los Esteros-Montague, and Los Esteros-Agnew). These lines will exit LES along a right-of-way and it is these lines that will be potentially impacted by LECEF operations with respect to magnetic field generation. Correspondingly, Applicant has noted that power introduction from LECEF would lead to decreases in the areas 230 kV lines: Los Esteros-Newark and Los Esteros-Metcalf. (Ex. 1, p. 4.11-7.)

We therefore conclude that the transmission lines associated with this project will not create any significant safety or nuisance hazards.

CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall build the proposed underground interconnection lines according to the requirements of CPUC's GO-128.

Verification: Thirty days before line-related ground disturbance, the project owner shall submit to the Commission's Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer affirming that the proposed line will be constructed according to the requirements of GO-128.

TLSN-2 The project owner shall engage a qualified consultant to measure the strengths of the magnetic fields from the interconnection point with PG&E to LECEF's switchyard. Measurements shall be made at the same points (identified as Points A, B, C, and D) for which calculated field strength measurements were provided by the applicant.

Verification: The project owner shall file copies of the pre-and post-energization measurements with the CPM within 60 days after completion of the measurements.

IV. PUBLIC HEALTH AND SAFETY ASSESSMENT

Operation of the LECEF will create combustion products and utilize certain hazardous materials that could expose the general public and workers at the facility to potential health effects. The following sections summarize the regulatory programs, standards, protocols, and analyses that address these issues.

A. AIR QUALITY

This section examines the potential adverse impacts of criteria air pollutant emissions resulting from project construction and operation. The Commission must examine whether the project complies with applicable laws, ordinances, regulations, and standards related to air quality. National (federal) ambient air quality standards (AAQS) have been established for six air contaminants identified as “criteria air pollutants.” These include: (1) sulfur dioxide (SO₂), (2) carbon monoxide (CO), (3) ozone (O₃); (4) nitrogen dioxide (NO₂), (5) lead (Pb); and (6) particulate matter less than 10 microns in diameter (PM₁₀). Also included in this review are the precursor pollutants for ozone, which are nitrogen oxides (NO_x) and volatile organic compounds (VOC) and the precursors for PM₁₀, which are NO_x, VOC, and sulfates (SO_x). (Exs. 1, p. 4.1-4; 4B, pp. 3-4.)

The federal Clean Air Act⁴² requires new major stationary sources of air pollution to comply with federal requirements in order to obtain authority to construct permits. The U.S. Environmental Protection Agency (USEPA), which administers the Clean Air Act, has designated all areas of the United States as attainment (air quality better than the (AAQS) or non-attainment (worse than the AAQS) for criteria air pollutants.

⁴² 42 U.S.C. § 7401 et seq.

There are two major components of air pollution law: New Source Review (NSR) for evaluating pollutants that violate federal standards; and Prevention of Significant Deterioration (PSD) to evaluate those pollutants that do not violate federal standards. Enforcement of NSR and PSD rules is typically delegated to local air districts that are established by federal and state law. Both USEPA and the California Air Resources Board (CARB) have established allowable maximum ambient concentrations for the six criteria pollutants listed above. The California standards are typically more stringent than federal standards. Federal and state ambient air quality standards are shown in Table 1 below.

Summary and Discussion of the Evidence

The Los Esteros Critical Energy Facility (LECEF) is located in the city of San Jose within the Bay Area Air Basin (ambient air quality data has been collected extensively in the Bay Area Air Basin) and is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The Bay Area Air Basin is designated attainment for the state and federal NO₂, CO, and SO₂ AAQS standards, and nonattainment for the state and federal ozone AAQS standards and the state PM₁₀ standard. All state and federal ambient air quality designations and three BAAQMD measured attainment pollutants are presented below in **Tables 2 and 3**, respectively.⁴³ (Ex. 1, p. 4.1-6.)

⁴³ In general, an area is designated as attainment for a specific pollutant if the concentrations of that air contaminant never exceed the AAQS. Likewise, an area is designated as non-attainment for an air contaminant if that standard is ever violated. An area can be classified attainment for one air contaminant and non-attainment for another, or attainment for the federal standard and non-attainment for the state standard for the same contaminant. The entire area within the boundaries of a district is usually evaluated to determine the district's attainment status. (Ex. 1, p. 4.1-6.)

AIR QUALITY Table 1
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone (O ₃)	1 Hour	0.12 ppm (235 µg/m ³)	0.09 ppm (180 µg/m ³)
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)
	1 Hour	35 ppm (40 mg/m ³)	20 ppm (23 mg/m ³)
Nitrogen Dioxide (NO ₂)	Annual Average	0.053 ppm (100 µg/m ³)	-
	1 Hour	-	0.25 ppm (470 µg/m ³)
Sulfur Dioxide (SO ₂)	Annual Average	0.03 ppm (80 µg/m ³)	-
	24 Hour	0.14 ppm (365 µg/m ³)	0.04 ppm (105 µg/m ³)
	3 Hour	0.5 ppm (1300 µg/m ³)	-
	1 Hour	-	0.25 ppm (655 µg/m ³)
Respirable Particulate Matter (PM ₁₀)	Annual Geometric Mean	-	30 µg/m ³
	24 Hour	150 µg/m ³	50 µg/m ³
	Annual Arithmetic Mean	50 µg/m ³	-
Sulfates (SO ₄)	24 Hour	-	25 µg/m ³
Lead	30 Day Average	-	1.5 µg/m ³
	Calendar Quarter	1.5 µg/m ³	
Hydrogen Sulfide (H ₂ S)	1 Hour	-	0.03 ppm (42µg/m ³)
Vinyl Chloride (chloroethene)	24 Hour	-	0.010 ppm (26 µg/m ³)
Visibility Reducing Particulates	1 Observation	-	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

Source: (Ex. 1, p. 4.1-5.)

AIR QUALITY Table 2
Local Air Quality Classifications

Pollutant	State Designation	Federal Designation
NO ₂	Attainment	Attainment
CO	Attainment	Attainment
PM ₁₀	Nonattainment	Attainment
SO ₂	Attainment	Attainment
Ozone	Nonattainment	Nonattainment

Source: (Ex. 1, p. 4.1-6.)

AIR QUALITY Table 3
BAAQMD Attainment Pollutant
Maximum Ambient Concentrations (ppm) ⁴⁴

Pollutant	Averaging Time	1993	1994	1995	1996	1997	1998	1999	Limiting AAQS
CO	8-hour	7.88	8.75	5.84	7	6.11	6.27	6.28	9
	1 hour	14	12	10.1	8.8	10.7	8.7	9	20
NO ₂	Annual	0.027	0.028	0.027	0.025	0.025	0.025	0.026	0.053
	1 hour	0.12	0.107	0.116	0.108	0.118	0.098	0.128	0.25
SO ₂	24-hour	0.012	0.012	0.011	0.014	0.014	0.015	0.038	0.04
	1 hour	5	3	7	4	1	9	2	0.25

Source: California Air Resources Board

Source: (Ex. 1, p. 4.1-6.)

CARB monitors ambient air quality data for all pollutants, except sulfur dioxide and particulate sulfates, on 4th Street in San Jose, approximately seven miles S/SE of the LECEF site. San Francisco is the nearest monitoring station for sulfur dioxide; BAAQMD's Tully Road monitoring station in San Jose is the

⁴⁴ Maximum ambient concentrations of the three attainment pollutants over the past decade demonstrate that no violations of standards have occurred. (Ex. 1, p. 4.1-6.)

closest for particulate sulfates. Data from all of these sites were reviewed to evaluate existing air quality at the LECEF location. (Ex. 4B, p. 4.) The EPA and BAAQMD worked in conjunction with Commission staff to determine whether LECEF emissions would cause significant air quality impacts and to identify appropriate mitigation measures to reduce potential impacts to levels of insignificance. (Ex. 4B, pp. 6-7.)

1. BAAQMD's Final Determination of Compliance

On February 1, 2002, BAAQMD released its Final Determination of Compliance (FDOC). (Ex. 2A.) The FDOC concludes that the LECEF will comply with all applicable air quality requirements and imposes certain conditions necessary to ensure compliance. Following Commission regulations, the conditions contained in the FDOC are incorporated into this Decision. BAAQMD's witness testified that the project would comply with BAAQMD's requirements and with state and federal regulations. (3/11/02 RT 181:16-282:6.)

2. CEQA Guidance

The Commission not only reviews compliance with BAAQMD rules,⁴⁵ but also evaluates potential air quality impacts following CEQA Guidelines.⁴⁶ The Guidelines require analysis to determine whether a project will:

- conflict with or obstruct implementation of the applicable air quality plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the region is nonattainment for state or federal standards;

⁴⁵ Title V of the Clean Air Act requires the states to implement an operating permit program to ensure that large sources comply with federal regulations. The USEPA has delegated to BAAQMD the authority to implement the federal PSD, nonattainment NSR, and Title V programs. BAAQMD adopted regulations, approved by USEPA, to implement these programs. The LECEF is subject to BAAQMD rules and regulations that define requirements for Best Available Control Technology (BACT), offsets, and emission calculation procedures. (Ex. 4B, p. 3.)

⁴⁶ 20 Cal. Code of Regs., §§ 1744.5, 1752.3.

- expose sensitive receptors to substantial pollutant concentrations; and
- create objectionable odors affecting a substantial number of people. (14 Cal. Code of Regs., § 15000 et seq., Appendix G.)

3. Existing Ambient Air Quality

Ambient air quality for state nonattainment criteria air pollutants (PM10 and ozone) are set forth below in Tables 4 and 5.

Ambient PM10⁴⁷

PM10 can be emitted directly from a combustion process or it can be formed many miles downwind when various precursor pollutants chemically interact in the atmosphere. PM10 in the air is caused by a combination of wind-blown fugitive dust; particles emitted from combustion sources, including wood stoves and fireplaces (usually carbon particles); organic, sulfate and natural aerosols (such as salts from sea sprays). PM10 levels have been below the federal standards, but above the state standards in the San Jose area over the last ten years. (Exs. 1, p. 4.1-8; 4B, p. 5.)

Gaseous emissions of pollutants such as NOx, SO2 and precursor organic compounds (POC) from turbines, and ammonia (NH3) from NOx control equipment can, given the right meteorological conditions, form particulate nitrates, sulfates, and organic solids. These pollutants are known as secondary particulates, because they are not directly emitted but rather are formed outside the facility through chemical reactions in the atmosphere. (Ex. 1, p. 4.1-8.)

BAAQMD has recorded violations of the state PM10 AAQS in the Bay Area Air Basin in all recent years. Though no violations of the federal PM10 AAQS were recorded, there were recorded violations of the state 24-hour PM10 AAQS in most recent years. BAAQMD data reports the maximum recorded ambient 24-hour average concentrations and the number of ambient violations of the state

⁴⁷ A discussion of the region's air quality and general meteorology is contained in Staff's Assessment. (Ex. 1, p. 4.4-3/4.)

AAQS each year. We note that ambient PM10 measurements are only taken once every six days; each recorded violation represents a six-day period during which the standard was violated. (Exs. 1, pp. 4.1-8/9; Ex. 4B, p. 5; see **Table 4**, below.)

AIR QUALITY Table 4
BAAQMD PM10 Maximum 24-hour Average Concentrations
and Number of Measurement Periods (6-day periods)
In Violation with the State AAQS

Station	PM10	1993	1994	1995	1996	1997	1998	1999	2000
Marin County Summary	24-Hour High Avg. (g/m ³)	69	72.4	74.2	50.3	72	52.4	75.6	39.5
	State Violations	1	4	1	0	2	1	2	0
SF County Summary	24-Hour High Avg. (g/m ³)	69	93	49.9	70.9	81	52.4	77.9	63.2
	State Violations	5	6	0	2	3	1	6	2
Alameda County Summary	24-Hour High Avg. (g/m ³)	84	96.9	51.7	71.1	64.7	62.7	87.9	71.2
	State Violations	4	4	2	1	2	2	3	2
Contra Costa County Summary	24-Hour High Avg. (g/m ³)	81	87	72.7	75.6	77.8	66.8	100.6	62.0
	State Violations	7	6	4	1	3	2	7	1
Santa Clara County Summary	24-Hour High Avg. (g/m ³)	101	92.6	59.7	76.1	95	92	114.4	76.1
	State Violations	9	9	4	2	3	3	7	7
San Jose 4 th Street	24-Hour High Avg. (g/m ³)	92	92.6	59.7	76.1	78	92	114.4	76.1
	State Violations	8	7	4	2	3	3	5	7
San Jose Piedmont Road	24-Hour High Avg. (g/m ³)	NA	NA	57.4	58.7	55.3	54.4	NA	NA
	State Violations	NA	NA	1	2	1	1	NA	NA
San Jose Moorpark Avenue	24-Hour High Avg. (g/m ³)	76	66.6	54.5	58.4	60.7	42.5	NA	NA
	State Violations	3	4	1	1	3	0	NA	NA
San Jose Tully Road	24-Hour High Avg. (g/m ³)	101	90.2	48.6	66.8	95	88.5	96.5	68.5
	State Violations	7	7	0	1	3	1	4	2
Basin Wide Summary	24-Hour High Avg. (g/m ³)	101	96.9	74.2	76.1	95	92	114.4	76.1
	State Violations	11	10	7	3	4	5	12	7
Source: California Air Resources Board									
State 24-Hour Ambient Air Quality Standard for PM10: 50 □g/m ³									
Federal 24-Hour Ambient Air Quality Standard for PM10: 150 □g/m ³									
NA = PM10 data is not available for these years at these sites.									

Source: Ex. 1A, p. 4.1-2.

Ambient Ozone

Ozone is not directly emitted from stationary or mobile sources; rather it is formed as the result of chemical reactions in the atmosphere between directly emitted air pollutants. NO_x and POC's react with oxygen in the presence of sunlight to form ozone. Consequently, peak ozone levels are seen during the summer months, when there is the most sunlight. The state ozone standard has been exceeded on a few days each year (up to 20) in San Jose during the last 10 years. During most years, there have been less than five days when the state ozone standard was exceeded. There have been only three exceedances of the federal ozone standard in San Jose during the last twelve years: in 1989, 1995, and 1998. In general, ozone levels in the San Jose area have been relatively constant over the last 10 years, despite the tremendous growth in the area. Collected air quality data indicates that ambient ozone is a regional pollutant and that violations occur primarily during the period of May through October. (Exs. 1, p. 4.1-9; 4B, p.4.)

In the Bay Area Air Basin, the maximum ambient ozone levels generally increase from west to east since the air coming onshore from the Pacific is generally clean. As air flows over regions of human activity, it accumulates pollutants. As the pollutants warm up, the chemical reactions that generate ozone accelerate and the ambient ozone levels increase. This atmospheric chemistry takes time to proceed however, so the secondary ozone impact from NO_x and POC emissions is generally miles down wind, to the south and east in the Bay Area Air Basin. This pattern can be seen in the ozone data presented: note that the highest one-hour average and particularly the annual number of state AAQS violations increases from northwest to southeast. (Ex. 1, p. 4.1-9; see **Table 5** below.)⁴⁸

⁴⁸ CO results from inefficient combustion, principally from motor vehicles and other mobile sources of air pollution. Industrial sources typically contribute less than 10 percent of ambient CO levels. There have been no violations of state or federal CO standards measured in San Jose since 1991. NO₂ is formed primarily in the air from reactions between nitric oxides and oxygen or ozone. Likewise, there have been no violations of state or federal nitrogen dioxide standards

AIR QUALITY Table 5
Maximum Concentration of O3 (Ozone) and
Number of Days in which the State Ozone Standard was Violated

Station	Ozone	1993	1994	1995	1996	1997	1998	1999	2000
Marin County Summary	Highest 1 hour Average (ppm)	0.080	0.089	0.088	0.105	0.106	0.074	0.102	0.071
	State Violations	0	0	0	2	1	0	2	0
SF County Summary	Highest 1 hour Average (ppm)	0.080	0.055	0.088	0.071	0.068	0.053	0.079	0.058
	State Violations	0	0	0	0	0	0	0	0
Alameda County Summary	Highest 1 hour Average (ppm)	0.13	0.129	0.155	0.138	0.114	0.146	0.146	0.137
	State Violations	8	7	21	23	6	22	15	5
Contra Costa County Summary	Highest 1 hour Average (ppm)	0.130	0.121	0.152	0.137	0.108	0.147	0.156	0.138
	State Violations	10	6	12	15	4	16	8	2
Santa Clara County Summary	Highest 1 hour Average (ppm)	0.130	0.130	0.145	0.129	0.114	0.147	0.125	0.113
	State Violations	14	8	22	24	3	22	12	4
Gilroy	Highest 1 hour Average (ppm)	0.11	0.101	0.13	0.121	0.095	0.135	0.105	NA
	State Violations	6	3	10	15	1	10	3	NA
Los Gatos	Highest 1 hour Average (ppm)	0.13	0.118	0.141	0.129	0.097	0.133	0.117	0.080
	State Violations	8	2	13	10	1	5	4	0
Mountain View	Highest 1 hour Average (ppm)	0.11	0.084	0.116	0.106	0.114	0.097	0.114	NA
	State Violations	2	0	2	3	1	2	7	NA
San Jose 4 th Street	Highest 1 hour Average (ppm)	0.11	0.112	0.134	0.11	0.094	0.147	0.109	0.073
	State Violations	3	2	14	5	0	4	3	0
San Jose Piedmont Road	Highest 1 hour Average (ppm)	0.11	0.116	0.145	0.118	0.095	0.129	0.116	0.096
	State Violations	5	3	15	5	1	5	2	1
San Martin	Highest 1 hour Average (ppm)	NA	0.13	0.128	0.115	0.091	0.144	0.125	0.113
	State Violations	NA	5	14	18	0	15	7	4
Basin Wide Summary	Highest 1 hour Average (ppm)	0.130	0.130	0.155	0.138	0.114	0.147	0.156	0.152
	State Violations	19	13	28	34	8	29	20	12
Source: California Air Resources Board									
State 1 hour Ambient Air Quality Standard for Ozone: 0.09 ppm (180 $\mu\text{g}/\text{m}^3$)									
Federal 1 hour Ambient Air Quality Standard for Ozone: 0.12 ppm (235 $\mu\text{g}/\text{m}^3$)									
NA = Ozone data is not available for these years at these sites.									

Source: (Ex. 1A, p. 4.1-3.)

measured in San Jose during the last twelve years. SO₂ is produced when any sulfur-containing fuel is burned. It is also emitted by chemical plants that treat or refine sulfur or sulfur-containing compounds. Natural gas contains negligible amounts of sulfur. Sulfur dioxide levels are not measured in San Jose because there are no significant sources of this pollutant in the area. Sulfur dioxide levels measured at the nearest monitor, in San Francisco, have been well below state and federal air quality standards during the last 12 years. (Ex. 4B, p. 4.)

4. Modeling Approach

While emissions are the actual mass of pollutants emitted from the project, the impacts are the maximum concentration of pollutants from the project to which people may be exposed. Impacts are calculated using air quality computer modeling programs. In this process, Staff:

- Reviews and verifies the vendor data from the manufacturer of the generation equipment;
- Compiles operating data from similar projects;
- Reviews the best available control technology (BACT) available to the facility;⁴⁹
- Determines emissions parameters from the power plant that include the temperature and the velocity of the emissions;
- Compiles hourly meteorological data from at least three years, which include wind direction, wind speed, and temperature;⁵⁰
- Uses computer input data to produce a “worst-case impacts” scenario;
- Determines power plant impacts by measuring worst-case impacts data against AAQS;
- Determines the worst-case impacts from introduction of the facility by adding emissions created by the power plant to background data for the region in question; and
- Determines the appropriate mitigation to ameliorate the impacts created from introduction of the facility. (3/11/02 RT 178:8-180-25.)

When emissions are expelled at a high temperature and velocity through a relatively tall stack, the pollutants will be significantly diluted by the time they reach ground level. In contrast, the impacts from a source emitting at ground

⁴⁹ BACT is governed by law and set by the state or federal enforcement agency, which in this case is BAAQMD. (3/11/02 RT 178:24-179-3.)

⁵⁰ BAAQMD collects specific local meteorological data at the Alviso Sewage Treatment Plant monitoring station located just northwest of the project site. Applicant proposed and BAAQMD accepted use of data sets from 1995 through 1999. These data sets include hourly measurements of ambient temperature, Pasquill air stability class, and wind speed and wind direction. Monthly wind roses, which are graphical representations showing wind speeds and directions based on the collected data from all four years, are shown in Appendix A. The local

level (such as a car or lawnmower) can be much higher although the emissions are clearly lower, because little dilution occurs between emission and impact. Thus, emissions from the LECEF are analyzed with air dispersion models to determine the impacts at ground level. (Ex. 1, p. 4.1-16.)

Applicant performed an air dispersion modeling analysis to evaluate the potential impacts on the existing ambient air pollutant levels, during both construction and operation. An air dispersion modeling analysis usually starts with a conservative screening level analysis. Screening models use very conservative assumptions and meteorological conditions, which may or may not actually occur in the area. The impacts calculated by screening models, therefore, can be significantly higher than the actual or expected impacts. If the screening level modeling predicts significant impacts, a refined modeling analysis is performed. A major difference between the screening modeling and the refined modeling is that hour-by-hour meteorological data collected near the project site is used for the refined analysis. Applicant applied the Industrial Source Complex Short-Term model, Version 3, known as the ISCST3 model, for the refined modeling analysis. This is a generally accepted model for this type of project. (Ex. 1, p. 4.1-16/17.)

5. Construction Impacts

The LECEF will include four 48.7 MW General Electric LM6000PC Sprint combustion gas turbines, and a two cell mechanical draft evaporative cooling tower. In addition, major ancillary facilities will include a 368-bhp diesel fire pump and a 600 kW natural gas emergency generator. Offsite linear facilities include a natural gas pipe line, a process water pipeline and transmission lines. (Ex. 1, p. 4.1-12.)

winds blow almost solely from the northwest during the spring, summer and fall seasons but shift in the winter to blow mostly from the southeast. (Ex. 1, p. 4.4-4.)

Construction work consists of three major areas of activity: 1) the civil/structural construction 2) the mechanical construction, and 3) the electrical construction. The greatest emissions during construction are generated from the civil/structural activity, where work such as grading, site preparation, foundations, underground utility installation and building erection occur. These types of activities require the use of large earth moving equipment, which generate considerable combustion and fugitive dust emissions. (Ex. 1, p. 4.1-12.)

The mechanical construction includes the installation of the heavy equipment, such as the combustion and steam turbines, the heat recovery steam generators, condenser, pumps, piping and valves. Although not a large fugitive dust generation activity, the use of large cranes to install such equipment generates significantly more emissions than other construction equipment onsite.

Finally, the electrical equipment installation occurs involving such items as transformers, switching gear, instrumentation and wiring, and is a relatively small source of emissions in comparison to the early construction activities. (Ex. 1, p. 4.1-12.)

Applicant performed a refined air dispersion modeling analyses of the potential construction impacts at the project site using the same ISCST3 computer model and meteorological data from 1995 through 1999 used to model steady state impacts. The analyses included fugitive dust generated from the construction activity and combustion emissions from the equipment. The one-hour NO₂ impact was calculated using the Ozone Limiting Method (OLM).⁵¹

⁵¹ The USEPA (Appendix W of 40 CFR Part 51) and CARB recommend the use of OLM as a second level screening analysis for the determination of NO₂ impacts. This method assumes that the conversion rate of NO to NO₂ is limited by the amount of ozone (O₃) present in the

The modeled SO₂, CO, NO₂, and PM₁₀ worst case impacts for an expedited construction schedule (two 10-hour construction shifts) in comparison to the state and federal AAQS are presented below in **Table 7**.

AIR QUALITY Table 7
Maximum Construction Impacts (µg/m³)

POLLUTANT	Averaging Time	Modeled Impact for Expedited Construction	Background	Total Impact for Expedited Construction	State AAQS	Federal AAQS
NO ₂	1 hour	229.1	241	470	470	--
	Annual	2.8	49	52	--	100
PM ₁₀	24 hour	37.0	114	151	50	150
	Ann Geo. Mean	7.2	25.4	33	30	
	Annual Arithmetic	7.2	28.7	36		50
CO	1 hour	61.2	12,375	12,436	23,000	40,000
	8 hour	42.1	6,978	7,068	10,000	10,000
SO ₂	1 hour	7.1	94	101	650	--
	24 hour	1.8	18.4	20	105	18%
	Annual	0.11	5.3	5	80	6%

Source: (Ex. 1, p. 4.1-6;1G, p.23.)

Based upon its modeling analysis, the Staff concluded that with full implementation of all proposed construction Conditions of Certification, SO₂ and CO emissions during construction would not cause a significant impact. (Ex. 1G, p. 2.) See Conditions AQ-SC1 – AQ-SC5

For NO₂, the modeling analysis shows that the 1-hour average NO₂ impact is very close to the state AAQS. The analysis also shows that both the 24-hour PM₁₀ and annual PM₁₀ expedited construction impacts when using the highest measured background levels during the last seven years, may:

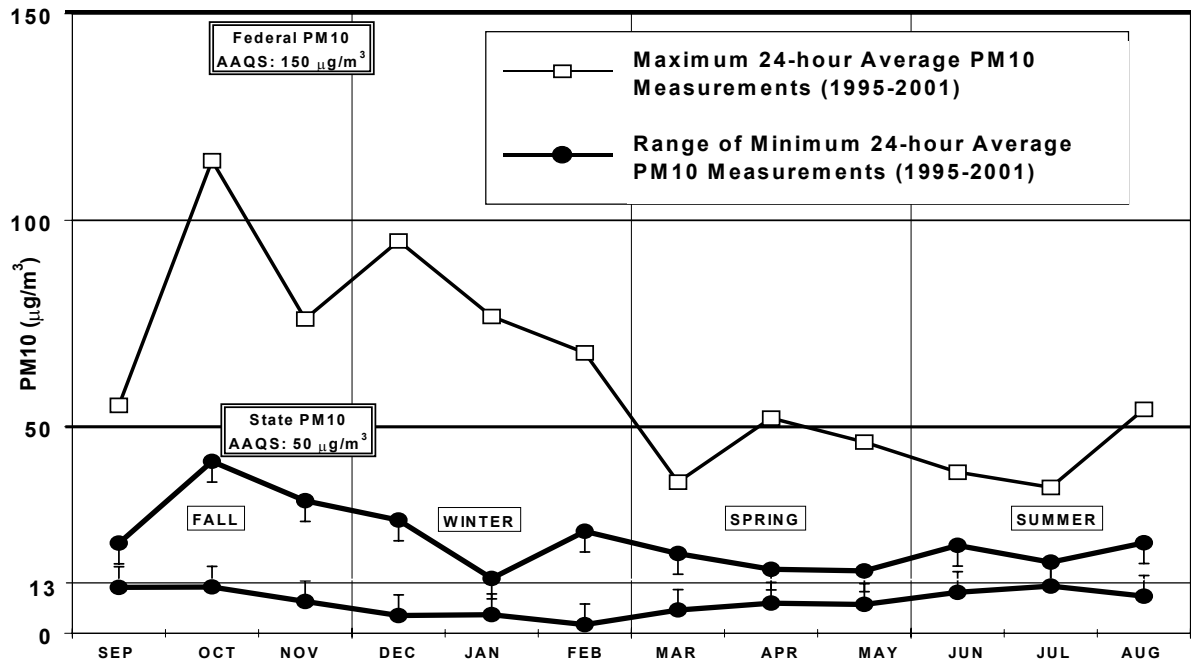
atmosphere. This assumption is because O₃ reacts rapidly with NO forming NO₂ and molecular oxygen. (Ex. 1, p. 4.1-17.)

- contribute to an existing violation of the state 24-hour average PM10 AAQS; and
- cause a new violation of both the state annual and the federal 24-hour average PM10 AAQS. (Ex. 1G. p. 2.)

Seasonal Variation of Background PM10

Elevated ambient PM10 tends to be a seasonal problem. In general, the ambient PM10 levels tend to be much lower in the summer than in the winter. For this reason, and because of the short duration (approximately four months) of the proposed expedited construction schedule, if the entire construction project were to be completed during the summer months, then the background 24-hour average PM10 level assumed (114 $\mu\text{g}/\text{m}^3$) could be excessively conservative. The combined monthly maximum and the range of minimum ambient PM10 levels for January 1995 through June 2001 from the 4th Street monitoring station in San Jose (about 7 miles south south-east of the project site) and the Tully Road monitoring station (about 13 miles south southeast of the project site) are presented below in **Figure 1**.

AIR QUALITY Figure 1
Monthly Maximum & Minimum Ambient 24-hour Average PM10 Levels
4th Street & Tully Road (San Jose)
January 1995-June 2001



Source: (Ex. 1G, p. 3.)

Effectiveness Construction Mitigation

The estimated control efficiency for various construction mitigation measures are listed below in **Table 8**.⁵²

⁵² The measures are based on an analysis of Best Available Control Measures (BACM) prepared by the San Joaquin Valley Air Pollution Control District staff in October 2001. (Ex. 1G, p. 4)

AIR QUALITY Table 8
Construction Mitigation Estimated Control Efficiency ⁵³

Source	Control Method	Percent Efficiency
Construction, Demolition and Earthmoving	Truck Load Covers	95
	Pave Roads	90
	Chemical Dust Suppressant	60
	Periodic Watering	50
Windblown Dust	Plant vegetation completely covering disturbed surface	99
	Chemical Dust Suppressant	75-80
Bulk Materials	Wind Fences	60-80
	Wet Suppression	56-81
Unpaved Roads & Parking Lot	Paving	99
	Chemical Dust Suppressant	75
	Gravel	60
	Reduce Traffic by 50%	50
	Set Speed Limits	37
Carryout to Paved Roads	Truck Load Covers	95
	Wheel Washers	75
	Paved Access Aprons	60
	Street Sweeping & Other Road Cleanup	45
Disturbed Open Areas & Vacant Lands	Re-vegetation, Chemical Dust Suppressants & Wind Fences	70
	Plant Trees as Windbreak	8

Source: (Ex. 1G, p. 5.)

The effectiveness of the proposed construction mitigation is measured as a percentage of the uncontrolled emissions that are avoided. This effectiveness can vary widely due to the number of influencing factors. Some of these factors include ambient conditions (temperature, wind & humidity), size & weight of vehicles, vehicle speed, number of vehicles and soil parameters (chemical composition, particle size distribution, organic components, etc.) The frequency of construction activities (disturbance of stabilized surfaces) and day to day aggressiveness of mitigation efforts (application of water or dust suppressants,

⁵³ H.R. Guerra, J.R. Nazareno, T. Le & J. Barba; San Joaquin Valley Unified Air Pollution Control District; Final Draft Staff Report: BACM Amendments to Regulation VIII (Fugitive PM10 Prohibitions), Table 1; October 31, 2001

street sweeping to remove carryout from paved roads, etc.) are further sources of uncertainty. (Ex. 1G, p. 5.) Staff provided testimony that enhanced PM10 emissions due to the expedited construction schedule would be mitigated by measures included in Conditions AQ-SC1 through AQ-SC5 to reduce potential construction impacts to insignificant levels. (5/20/02 RT 101-118.)

In particular, AQ-SC-5 requires implementation of a Construction Monitoring Demonstration Program to measure PM10 emissions during excavation, earthmoving and grading activities. Although Applicant indicated concern that such monitoring has not been previously required in other AFC proceedings, we believe that the extraordinary circumstances of the expedited 24-hour construction schedule warrant imposition of this requirement.

6. Operational Impacts

The combustion turbines will be equipped with water injection to minimize NOx generation and the CTG exhaust will also be treated by a selective catalytic reduction (SCR) system before release to the atmosphere. SCR refers to a process that chemically reduces NOx to elemental nitrogen and water vapor by injecting ammonia into the flue gas stream in the presence of a catalyst and excess oxygen. The process is termed “selective” because the ammonia preferentially reacts with NOx rather than oxygen. (Ex. 1, p. 4.1-13.)

The catalyst material most commonly used is titanium dioxide, but materials such as vanadium pentoxide, zeolite, or noble metals are also used. Newer catalysts (versus the older alumina-based catalysts) are more resistant to fuel sulfur fouling at temperatures below 770° F (EPRI 1990). Regardless of the type of catalyst used, efficient conversion of NOx to nitrogen and water vapor requires uniform mixing of ammonia into the exhaust gas stream and a catalyst surface area large enough to ensure sufficient time for the reaction to take place. POC and carbon monoxide (CO) will be controlled at the CTG combustor and by an oxidation catalyst. An oxidation catalyst system chemically reacts organic compounds and CO with excess oxygen to form nontoxic carbon dioxide and

water. Unlike the SCR system for reducing NO_x, an oxidation catalyst does not require any additional chemicals. (Ex. 1, p. 4.1-13.)

SO₂ and PM₁₀ formation are limited by exclusive use of an inherently clean fuel, natural gas. Natural gas contains very little noncombustible gas or solid residue and is thus a relatively clean-burning fuel. Natural gas does contain very small amounts of a sulfur-based scenting compound known as mercaptan, which when combusted, results in sulfur dioxide emissions. However, in comparison to other fuels used in modern thermal power plants, such as fuel oil or coal, the sulfur dioxide emissions from the combustion of natural gas are very low. A fuel sulfur content limit of 0.25 grains per 100 scf will be applied to the project and is assumed for the SO₂ emissions calculations. Like SO₂, the emissions of PM₁₀ from natural gas combustion are also very low compared to the combustion of fuel oil or coal. (Ex. 1, p. 4.1-14.)

The FDOC permits the project to operate continuously (8760 hours per year). The CTGs will burn only pipeline natural gas; there are no provisions for an alternative back-up fuel. The criteria air pollutant emissions during short periods of time (approximately one hour or less) are shown below in Table 8.

During startup, combustion temperatures and pressures change rapidly, resulting in less efficient combustion and higher emissions. In addition, flue-gas controls (the catalysts discussed above) operate most efficiently when the turbine operates at or near full-load temperatures.⁵⁴ The unusually low NO_x and POC emissions during start up shown here are due to the relatively fast start (~15 minutes) of the LM6000 model turbine. Since the transient period is minimized, the emissions rates are more quickly brought to steady state rates. The control technologies are also more quickly brought to full operation, thus further

⁵⁴ In general, higher emissions of NO_x, POC and CO will occur during the start up and shut down of large CTGs because the turbine combustors are designed for maximum efficiency during full load, steady state operation. (Ex. 1, p. 4.1-14.)

minimizing emissions. The “4-Turbine, worst-case” hourly emissions rate is based on the higher of two profiles listed. This corresponds to steady-state operation for NO_x & POC, startup for CO and the emissions for PM₁₀ and SO₂ are essentially equal in the two scenarios. Both the Emergency Generator and the Diesel Fire Pump Engine are intended for emergency use only, however both need to be tested weekly for approximately one hour to ensure readiness.

AIR QUALITY Table 9
Individual Equipment Maximum Short-Term Emissions
(pounds per hour [lb/hr])

OPERATIONAL PROFILE	NO _x	POC	PM ₁₀	CO	SO ₂
1 CTG Startup	7.7	0.68	2.5	7.7	0.33
1 CTG Steady State, 100% load	8.55	1.18	2.5	4.16	0.33
4 Turbines, worst case	34.20	4.72	10.0	30.8	1.32
Cooling Tower	-	-	0.09	-	-
Emergency Generator	1.77	1.4	0.28	3.0	0.005
Diesel Fire Pump Engine	3.44	0.10	0.06	0.18	0.10
TOTAL MAXIMUM SHORT-TERM EMISSIONS	37.64	6.1	10.4	33.8	1.42
Note: The applicant has committed to not testing the Emergency Generator and the Diesel Fire Pump on the same day, thus the total value includes only the higher of the two for each pollutant. The applicant will further be prohibited by condition of certification from testing the two pieces of equipment concurrently.					

Source: (Ex. 1A, p. 4.1-4.)

Maximum daily emissions rates for NO_x, POC, PM₁₀ and SO₂ were conservatively based on the worst-case hourly emissions rate times 24 hours and are presented below **Table 10**.

AIR QUALITY Table 10
Project Maximum Daily Emissions
(pounds per day [lb/day])

	NO _x	POC	PM ₁₀	CO	SO ₂
Four CTGs	820.8	113.28	240.0	413.52	31.68
Cooling Tower	-	-	2.16	-	-
Emergency Generator *	1.77	1.4	0.28	3.0	0.005
Diesel Fire Pump Engine *	3.44	0.10	0.06	0.18	0.10
Total Maximum Daily Emissions *	824.2	114.7	242.4	416.5	31.78
* The applicant will be prohibited by condition of certification from testing the Emergency Generator and Diesel Fire Pump Engine on the same day.					

Source: (Ex. 1A, p. 4.1-4.)

For CO, one start-up for each turbine was assumed with the remainder of operation at steady state. The Applicant has committed to not testing the Emergency Generator and the Diesel Fire Pump on the same day; thus the total value includes only the higher of the two for each pollutant. The Applicant is further prohibited from testing the two pieces of equipment on the same day. (See Condition **AQ-40**.)

POC, PM10, and SO2 are produced in proportion to fuel consumption; thus worst-case scenarios of year-round full-load operation are presented. To account for both testing and emergency use, one hundred hours per year of operation for both the diesel fire pump engine and emergency generator are also included. BAAQMD imposed the following maximum annual emissions:

- NO_x--a 2.5 ppm NO_x limit; and
- CO--a 5.0 ppm annual CO limit.⁵⁵

⁵⁵ The yearly limits are as opposed to the short-term 5.0-ppm NO_x and 6.0-ppm CO limits used in the hourly and daily calculations. BAAQMD indicated that to reach such low levels might require Applicant to reduce the operating time to less than the assumed 8760 hrs/year. (Ex. 1, p. 4.1-6.)

The proposed maximum annual emissions limits are summarized in the following **Table 10**. (Ex. 1, p. 4.1-16.)

Ammonia Emissions

To control NO_x emissions, aqueous ammonia will be injected into the flue gas stream as part of the SCR system. Not all of this ammonia mixes in the flue gases to reduce NO_x; some ammonia passes through the SCR and is emitted unaltered from the stacks. These ammonia emissions are known as ammonia slip. The Applicant proposed (and the BAAQMD agreed) an ammonia slip no greater than 10 ppm. On a daily basis, ammonia slip of 10 ppmv from all four turbines combined will yield approximately 600 pounds total emitted to the atmosphere. It should be noted that ammonia slip of 10 ppm usually only occurs after significant degradation of the SCR catalyst, usually five years or more after commencing operations. At that point, the SCR catalysts are removed and replaced with new catalysts. During most of the operational life of the SCR system, ammonia slip emissions would be significantly less, in the 1 to 5 ppm ranges. (Ex. 1, p. 4.1-16.)

AIR QUALITY Table 11
Project Maximum Annual Emissions
(tons per year [ton/year])

Operational Profile	NO _x	POC	PM ₁₀	CO	SO ₂
Four Turbines	74.9	20.8	43.8	75.47	5.8
Cooling Tower	-	-	0.394	-	-
Emergency Generator (100 hours/year)	0.09	0.07	0.014	0.15	0.00023
Diesel Fire Pump Engine (100 hours/year)	0.17	0.005	0.003	0.009	0.005
Total Maximum Annual Emissions	75.2	20.9	44.2	75.63	5.8

Source: (Ex. 1, p. 4.1-16.)

Initial Commissioning

As a new power generation facility, LECEF must go through an initial firing and commissioning phase before going fully on line. During this period, emissions may exceed permitted levels due to startups, shutdowns, extended periods of low-load operation and periods of time when the low-NO_x burners and SCR systems are fine tuned for optimum performance. Five stages of turbine commissioning were identified for the LECEF as follows:

- Full-Speed, No-Load Tests;
- Part-Load Tests;
- Full-Load, No SCR-Operation Tests;
- Full-Load, Partial SCR-Operation Tests; and
- Full-Load, Full SCR-Operation Tests. (Ex. 1, p. 4.1-18.)

Applicant assumed that only two of the turbines would be undergoing testing at any one time and applied conservative screening level modeling to each scenario. The worst case screening level impact predicted for both NO_x and CO are well below the most limiting AAQS and are presented below in **Table 12**. Since the most conservative level of modeling shows no potential violation of AAQS, no refined modeling was performed on the initial commissioning activities.

AIR QUALITY Table 12
Maximum Screening Level Impacts from Initial Commissioning
($\mu\text{g}/\text{m}^3$)

POLLUTANT	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
NO ₂	1 hour	41	241	282	470	60%
CO	1 hour	35	12,375	12,410	23,000	54%

Source: (Ex. 1, p. 4.1-18.)

While the construction and commissioning impacts are both relatively short-lived, operation impacts will continue throughout the life of the facility, and are thus

subjected to a more refined level of analysis. The following sections discuss the air quality impacts of LECEF operation under fumigation meteorological conditions, during combustion turbine startup and during steady-state operations.

Fumigation Impacts

Surface air is usually very stable during the early morning hours before sunrise. During such meteorological conditions, emissions from elevated stacks rise through this stable layer and are dispersed and diluted. As the sun rises, the air at ground level is heated resulting in turbulent vertical mixing (both rising and sinking) of air within a few hundred feet of the ground. Emissions from a stack that enters this turbulent layer of air will also be vertically mixed, bringing some of those emissions down to ground level before significant dispersion occurs and possibly causing abnormally high impacts. As the sun continues to heat the ground, this vertical mixing layer becomes thicker, and the emissions plume becomes better dispersed. The early morning air pollution event, called fumigation, usually lasts approximately 30 to 90 minutes. (Ex. 1, p. 4.1-18/19.)

Applicant applied USEPA approved SCREEN3 modeling for the calculation of fumigation impacts with a conservative shore line assumption. The worst-case one-hour emissions levels for each pollutant identified in AIR QUALITY Table 8 were assumed. Since fumigation impacts will not typically occur for more than a one-hour period, only the impacts on the one-hour standards are shown. The results of the modeling analysis show that fumigation impacts will not violate any of the one-hour standards; the highest modeled fumigation impacts in comparison with the one-hour NO₂, SO₂ and CO standards are shown below in **Table 13**.

AIR QUALITY Table 13
CTG Fumigation Modeling
Maximum One hour Impacts ($\mu\text{g}/\text{m}^3$)

POLLUTANT	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
NO ₂	10.5	241	251.5	470	54%
CO	7.7	12375	12382.7	23,000	54%
SO ₂	0.4	94	94.4	655	14%

Source: (Ex. 1, p. 4.1-19.)

Refined Modeling Analysis

Applicant provided a refined modeling analysis, using the ISCST3 model to quantify the potential impacts of the LECEF during both steady state operation and startup conditions. During worst-case normal operations, the facility will not cause a surface level violation of any ambient air quality standards, though it will contribute to the existing PM₁₀ problem. In this case, the maximum impacts were dominated by the diesel fire pump engine's weekly testing. The high-modeled NO₂ impacts from the pump engine are because the diesel engine emits at such a low stack height that minimal dilution occurs before the emissions reach the ground, very near the project site. Note also that this analysis conservatively assumes the highest single one-hour ambient NO_x level (241 $\mu\text{g}/\text{m}^3$) from the past eight years as a background to which all project impacts are added to determine the final level of impact. Because such a high background level is extremely unlikely to occur at the same location as the maximum impacts from the project, these modeled conditions are considered worst case. The worst-case (maximum) results of this modeling analysis are shown below in **Table 14**.

AIR QUALITY Table 14
LECEF Refined Modeling Maximum Impacts ($\mu\text{g}/\text{m}^3$)

POLLUTANT	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
NO ₂	1 hour	13.4*	241	254.4	470	54%
	1 hour	225.2*	241	466.2	470	99%
	Annual	0.18	49	49.18	100	49%
PM ₁₀	24 hour	1.32	114	115.32	50	231%
	Annual Geo. Mean	0.124	25.4	25.524	30	85%
CO	1 hour	246	12375	12621	23,000	55%
	8 hour	5.39	6983	6988.4	10,000	70%
SO ₂	1 hour	17.7	94	111.7	655	17%
	24 hour	0.08	18.4	18.48	105	18%
	Annual	0.01	5.3	5.31	80	7%
* The worst case 1-hour NO ₂ impacts are dominated by the emissions from the diesel fire pump engine during the weekly test. The maximum 1 hour NO _x impact of the project turbines alone will be 13.4 $\mu\text{g}/\text{m}^3$.						

Source: (Ex. 1, p. 4.1-20.)

Since emissions from the LECEF do not cause a violation of any NO₂, CO or SO₂ ambient air quality standards under such conservative assumptions, Staff found that the project impacts for those pollutants are insignificant. However, all project emissions of PM₁₀ are contributing to the existing PM₁₀ problem in the Bay Area, and thus are considered significant. (Ex. 1, p. 4.1-20.)

Secondary Pollutant Impacts

Gaseous emissions of NO_x, SO₂, POC and ammonia can contribute to the formation of secondary pollutants, ozone and PM₁₀. There are air-dispersion models that can be used to quantify ozone impacts, but they are used for regional planning efforts where hundreds or even thousands of sources are input into the modeling to determine ozone impacts. There are no regulatory agency models approved for assessing single-source ozone impacts. However, because of the known relationship of NO_x and POC emissions to ozone formation, it can be said that the emissions of NO_x and POC from the project do have the

potential (if left unmitigated) to contribute to higher ozone levels in the region. (Ex. 1, p. 4.1-20.)

There is a known relationship between emissions of ammonia, NO_x and SO₂ and the formation of ammonium nitrate and sulfate based PM₁₀. Whether the ammonia, NO_x and SO₂ impacts are significant depends on the likelihood of ambient PM₁₀ violations. The Bay Area Air Basin currently experiences violations of the state AAQS and is classified as a non-attainment area for the state PM₁₀ AAQS. Staff found that both the primary and secondary PM₁₀ emissions from the project to be a significant cumulative contribution to an existing problem. (Ex. 1, p. 4.1-20.)

Visibility Impacts

A visibility analysis of gaseous emissions is required under the Federal PSD permitting program. The LECEF project is not subject to PSD permitting, because it does not trigger the emission limits for such a review, so no visibility analysis was completed. Class I areas nearest the LECEF are the Point Reyes National Seashore and the Pinnacles National Monument. Due to the distance to Class I areas and the fact that the LECEF is not a major stationary source, visibility impacts on Class 1 areas are considered insignificant. (Ex. 1, p. 4.1-21.)

7. Emission Offsets

Applicant must provide emission offsets, in the form of banked Emission Reduction Credits (ERC), for emissions increases of NO_x and POC's. (BAAQMD Regulation 2-2-302) projected emissions of PM₁₀ and SO₂ are below the district's thresholds for requiring offsets. For facilities emitting more than 50 tons/year of NO_x, the district requires a trading ratio of 1.15:1 (i.e. for every one ton of NO_x emissions from the facility, 1.15 tons of NO_x ERCs must be provided). POC credits may be used in place of NO_x credits on a 1:1 basis as either pollutant is considered a precursor pollutant to the formation of ozone. (BAAQMD Regulation 2-2-302.2.) For facilities emitting between 15 and 50

tons/year of POC, BAAQMD requires a trading ratio of 1:1. A summary of the LECEF offset liability is presented below in **Table 15**.

AIR QUALITY Table 15
Emissions Offsets Liability (tons/year)

Pollutant	Emissions (tons/year)	Offset Ratio	POC Offsets Proposed
NO _x	75.4	1.15:1.0	86.7
POC	20.9	1.0:1.0	20.9
Total POC Emission Reduction Credits Proposed			107.6

Source: (Ex. 1, p. 4.1-25.)

Applicant is currently in possession of sufficient POC ERC certificates to fully satisfy these conditions. These certificates' numbers, the location of the sources they were derived from, and the amount of emissions reductions they represent are presented below in **Table 16**.

AIR QUALITY Table 16
(Emission Reduction Credits)

ERC Number	Source Location (City)	Date Banked	Source Type	Current Owner	POC (tpy)
#751	Quebecor (San Jose)	6/99	Printing	Calpine	53.3
#752	Quebecor (San Jose)	6/99	Printing	Calpine	25.1
#573	LSI (Milpitas)	9/98	Semiconductor fab	LSI Logic	15.9
#628	Owens Brockway (Antioch)	6/99	Glass Furnace	Owens Brockway	10.8
#605	Owens Brockway (Oakland)	1/95	Glass Plant	Owens Brockway	0.4
#287	Philips (Sunnyvale)	8/93	Semiconductor fab	Philips Semiconductor	2.6
#288	Philips (Sunnyvale)	7/93	Semiconductor fab	Philips Semiconductor	9.0
#393	Disk Systems (Sunnyvale)	7/94	Solvents	Anacomp Inc.	7.1
Total POC Emissions Reduction Credits Identified					124.2

Source: (Ex. 1, p. 4.1-26.)

Staff concluded that:

- Emissions offsets as proposed will fully mitigate the POC emissions from the project; and
- CO emissions impacts from the project do not cause a violation of any CO AAQS. (Ex. 1, p. 4.1-6; see Table 13 above.)

8. Emission Controls

Proposed emission controls will limit NO_x emissions to 5 ppmvd on a three-hour average, which the BAAQMD has found to be BACT for this type of facility. The selected SCR system will further limit the NO_x emissions to 2.5 ppmvd on a rolling 12-month average, which is consistent with the quantity of secured LECEF ERC's. Applicant provided documentation to Staff that verified that the SCR system is going to be designed to meet a NO_x concentration of 2.5 ppm. Applicant's proposed control levels in comparison to the BAAQMD and CARB recommended BACT levels are presented below in **Table 17**.

AIR QUALITY Table 17
Comparison of Proposed Mitigation Levels (@ 15 Percent O₂)

Emissions Source	Pollutant	Applicant Proposed BACT	District Proposed BACT *	CARB Recommended BACT **
CTG	NO _x	5.0 ppmvd, 3 hr rolling average	5.0 ppmvd, 3 hr rolling average	5 ppmvd, 3 hr rolling average
CTG	NO _x	2.5 ppmvd, 12 month rolling avg.	-	-
CTG	POC	2.0 ppmvd, 3 hr rolling average	2.0 ppmvd, 3 hr rolling average	2.0 ppmvd, 3 hr rolling average
CTG	PM ₁₀	Fuel sulfur ≤0.25 gr/100 scf	Fuel sulfur ≤0.25 gr/100 scf	Fuel sulfur ≤1 gr/100 scf
Cooling Towers	PM ₁₀	0.0005% Drift	-	-
CTG	CO	6.0 ppmvd, 3 hr average	6.0 ppmvd, 3 hr average	6.0 ppmvd, 3 hr average
CTG	SO ₂	Fuel Sulfur ≤ 0.25 gr/100 scf	Fuel Sulfur ≤ 0.25 gr/100 scf	Fuel Sulfur ≤ 1 gr/100 scf
* BAAQMD, "Preliminary Determination of Compliance Engineering Evaluation Application No. 3213, Los Esteros Critical Energy Facility, Plant #13289", November 2001 ** CARB, "Guidance for Power Plant Siting and Best Available Control Technology", 1999				

Source: (Ex. 1, p. 4.1-27.)

Proposed controls for POC and CO would limit these emissions to 2.0 ppmvd and 6.0 ppmvd, respectively. The BAAQMD has found that these levels meet BACT and will sufficiently control these emissions from the project. The sole use of natural gas fuel with a certified sulfur content not greater than 0.25 grains per 100 scf satisfies BACT requirements found by the BAAQMD for both PM10 and SO2. Applicant's use of drift eliminators with an efficiency of 0.0005 percent on the proposed cooling tower represents the state-of-the-art of drift eliminator design. This level of emissions control is thus considered adequate to minimize potential PM10 emissions. The proposed cooling tower will produce a maximum of 0.09 lbs. per day of PM10 and is thus not subject to the district BACT regulation. Nevertheless, considering the local PM10 issue, Staff has proposed and we accept enforcement of the 0.0005 percent drift control level. (Ex. 1, p. 4.1-26/27; see Condition **AQ-50**.)

Staff has concluded that PM10 additions to the Bay Area Air Basin are a significant impact requiring mitigation. (Exs. 1, p. 4.1-24; 1A, pp. 4.1-5-4.1-10.)⁵⁶ LECEF will add approximately 44.2 tons per year of PM10 resulting in a maximum 24-hour average ground level ambient impact increase of 1.32 µg/m³. Because the air basin currently experiences violations of the state AAQS, and is classified as non-attainment for that standard, this addition of PM10 would contribute to existing violations. Accordingly Staff therefore refined Applicant's mitigation package to meet this concern. (Exs. 1, p. 4.1-28/29; 1A. pp. 4.1.5; see Table 13 above.)

Specifically, Staff proposed several measures including the requirement that Applicant provide emission reductions sufficient to mitigate PM10 emissions from October through March. (See Exhibit 1-B.) We have incorporated these

⁵⁶ BAAQMD will not require Applicant to provide PM10 offsets because LECEF will emit less than the District's threshold set by rule of 100 tons per year. (Ex. 1, p. 4.1-24.)

measures in Conditions AQ-SC4. The mitigation plan shall be developed from the following sources:

(1) The Bay Area Air Quality Management District, Wood Stove Retrofit or Replacement Program; (2) The Lower-Emission School Buses Program; (3) Other mitigation measures approved by the CPM via written CEC Air Quality Staff review; (4) The California Air Resources Board, Carl Moyer Program; (5) Emission Reduction Credits banked with the Bay Area Air Quality Management District and approved by the CPM via written CEC Air Quality Staff review.

9. Cumulative Impacts

Applicant obtained an inventory from BAAQMD identifying all proposed facilities within six miles of the LECEF site that have not yet commenced operations. The inventory identified 33 projects, six of which had total emissions of any pollutant in excess of five tons per year. Based upon this information, Staff concluded that the maximum-modeled NO₂ impacts are caused by emissions from other proposed facilities, which will not be exacerbated by LECEF emissions and are thus not significant.⁵⁷ The maximum-modeled cumulative impacts of these six proposed sources combined with the LECEF are presented below in **Table 18**. (Ex. 1, p. 4.1-21/22.)

⁵⁷ The total impact in this case is conservatively estimated to be the maximum modeled impact plus the maximum existing background pollutant levels. The prepared cumulative modeling used very conservative assumptions in an attempt to produce a worst case impact scenario and then to examine the effects of emissions from LECEF. (Ex. 1, p. 4.1-21/22.)

AIR QUALITY Table 18
Maximum Modeled Cumulative Impacts ($\mu\text{g}/\text{m}^3$)

POLLUTANT	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	Percent of Standard
NO ₂	1 hour	234.3*	241	475.3	470	101%
	Annual	12.7	49	61.7	100	62%
SO ₂	1 hour	17.7	94	111.7	655	17%
	24 hour	1.6	18.4	20	105	19%
	Annual	0.2	5.3	5.5	80	7%
CO	1 hour	1905	12,375	14280	23,000	62%
	8 hour	560	6,983	7543	10,000	75%
PM ₁₀	24 hour	1.4	114	115.4	50	231%
	Annual Geo. Mean	0.4	25.4	25.8	30	86%

* The project contribution to the maximum combined impact is $0.0 \mu\text{g}/\text{m}^3$ while the existing source contribution to the project's maximum impact is $0.2 \mu\text{g}/\text{m}^3$.

Source: (Ex. 1, p. 4.1-21.)

Commission Discussion

Compression of Applicant's construction schedule results in an increase in PM₁₀ concentration levels, in a worst-case scenario, of approximately 30-35% over background levels.⁵⁸ (3/11/02 RT 154:16-163:10; Ex. 4B, p. 9; see Table 7, above.) Under this scenario, a new violation of the state and federal 24-hour average PM₁₀ AAQS levels are likely to occur. (Ex. 1G, p. 5.)

In addition, the projected NO₂ impact equal to the state 1-hour AAQS requires a more refined analysis. However, Staff concluded that Applicant has the ability to modify the expedited construction schedule and refine the modeling analysis to

⁵⁸ Now, the 24-hour state standard for PM₁₀ is 50-mcg/cubic meter. A triple shift (commensurate with around the clock construction) would theoretically triple Applicant's modeled 24-hour averaged construction impacts for PM₁₀ of $13.2 \mu\text{g}/\text{m}^3$ to $39.6 \mu\text{g}/\text{m}^3$, which is approximately 80% of the standard, and 30 to 35% over background levels on a worst case basis. (3/11/02 RT 156:3-157:16; see **Table 7** above.)

both reduce PM10 emissions and show compliance with NO2 standards. At the May 20, 2002 Evidentiary Hearings. Applicant and Staff recommended additional, more aggressive onsite mitigation measures. We have adopted these measures as well as the onsite ambient air monitoring as agreed to by Applicant and Staff. (Ex. 1G, p. 6; Joint Ex. 1; see Condition **AQ-SC-1 & AQ-SC-5**.) We are persuaded that with adoption of these measures, air quality impacts are minimized to a level of insignificance.

FINDINGS AND CONCLUSIONS

Based upon the weight of the evidence of record, we find and conclude as follows:

1. Ambient Air Quality Standards (AAQS) have been established for six air contaminants identified as criteria air pollutants, including Sulfur Dioxide (SO2) Carbon Monoxide (CO), Carbon Dioxide (CO2), Ozone (O3), Nitrogen Dioxide (NO2), and particulate matter less than 10 microns in diameter (PM10).
2. The Bay Area Air Quality Management District (BAAQMD) is the air quality regulatory agency for the area where the project site is located.
3. The LECEF project is not a major stationary subject to Prevention of Significant Determination (PSD) permitting because it does not trigger the emission limits for such a review.
4. The Bay Area air basin is a non-attainment area for both the state and federal 1-hour ozone standards and the state 24-hour PM10 standard, but in attainment for all other criteria pollutants.
5. BAAQMD will permit to operate continuously (8760 hours per year).
6. Construction and operation of the LECEF will result in emission of criteria air pollutants and their precursors.
7. The modeling used by Applicant, Staff, and the BAAQMD is appropriate and adequately reflects the worst-case air quality conditions pertinent to the LECEF project.

8. The BAAQMD issued a Final Determination of Compliance (FDOC) for the LECEF project that determines the project will comply with all applicable District rules.
9. Applicant has secured all required offsets to fully mitigate the project in accordance with the BAAQMD's rules on New Source Review (NSR).
10. Best Available Control Technology/Lowest Achievable Emission Rate (BACT/LAER) for NO_x is 5 ppmvd @ 15% O₂, averaged over three hours.
11. BACT for CO and Precursor Organic Compounds (POC) is an emission limitation of 2.0 ppmvd POC and 6.0 ppmvd CO @ 15% O₂, averaged over three hours.
12. The LECEF will use BACT as determined by the BAAQMD to control emissions of NO_x, CO, SO₂, PM₁₀, and Volatile Organic Compounds (VOC).
13. In the present circumstance, the BAAQMD does not require offsets for PM₁₀ emissions. However, Staff and Applicant have agreed and we have imposed additional mitigation measures for the monitoring and control of PM₁₀ emissions at the project site.
14. Applicant has obtained, by direct transfers or legally enforceable option contracts, Emission Reduction Credits (ERCs) sufficient to fully offset the increased emissions of NO_x, SO₂, VOC, and PM₁₀, due to project operation, on an annual and a daily basis.
15. Applicant has carried its burden of proof to demonstrate that with implementation of the Conditions of Certification specified below, the LECEF will be constructed and operated in compliance with all applicable laws, ordinances, regulations, and standards identified in the pertinent portion of Appendix A of this Decision.

We therefore conclude that with implementation of the Conditions of Certification below, the LECEF project will not create any significant direct, indirect, or cumulative adverse air quality impacts; and will conform with all applicable LORS relating to air quality as set forth in the pertinent portions of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

AQ-SC1 The project owner shall prepare a Fugitive Dust Mitigation Plan (FDMP) that will specifically identify fugitive dust mitigation measures that will be employed for the construction of the Los Esteros Critical Energy Facility and related facilities. The CEC shall approve a Fugitive Dust Mitigation Manager(s) (FDMM) who shall be onsite during all construction activities until released by the CPM. The FDMM shall be responsible for monitoring and enforcing the effectiveness of all mitigation measures for construction as outlined in conditions of certification AQ-SC1 and AQ-SC5. The owner/operator shall be responsible for funding the costs of the FDMM, however, the FDMM shall report to the CPM.

Construction mitigation measures that shall be addressed in the FDMP include, but are not limited to, the following:

1. the identification of the employee parking area(s) and the surface composition of those parking area(s);
2. the frequency of watering of unpaved roads and disturbed areas;
3. the application of chemical dust suppressants;
4. the use of gravel in high traffic areas;
5. the use of paved access aprons;
6. the use of posted speed limit signs;
7. the use of wheel washing areas prior to large trucks leaving the project site;
8. The methods that will be used to clean up mud and dirt that has been tracked-out from the project site onto public roads;
9. The use of windbreaks at appropriate locations;
10. The suspension of all earth moving activities under windy conditions; and
11. The use of on-site monitoring devices.

In monitoring the effectiveness of all mitigation measures included in the FDMP, the FDMM shall take into account the following:

- a) Onsite spot checks of soil moisture content at locations where soil disturbance, movement and/or storage is occurring;
- b) Visual observations of all construction activities; and
- c) The results of measurements by portable PM10 instruments (as described in AQ-SC5).

The FDMM shall implement the following procedures for additional mitigation measures if the FDMM determines that the existing mitigation measures are not resulting in adequate mitigation:

- The FDMM shall direct more aggressive application of the existing mitigation methods within fifteen (15) minutes of making such a determination;
- The FDMM shall direct implementation of additional methods of dust suppression if the step specified above fails to result in adequate mitigation within thirty (30) minutes of the original determination;
- The FDMM shall direct a temporary shutdown of the source of the emissions if both steps specified above fail to result in adequate mitigation within one (1) hour of the original determination. The activity shall not restart until one (1) full hour after the shutdown. The owner/operator may appeal a directive from the FDMM to shutdown a source to the CPM, provided that the shutdown shall remain in effect unless reversed by the CPM.

Verification: At least fifteen (15) days prior to site mobilization, the project owner shall provide the CEC Compliance Project Manager (CPM) with a copy of the Fugitive Dust Mitigation Plan (FDMP) for approval. Ground breaking shall not commence until the project owner receives approval of the FDMP from the CPM.

AQ-SC2 the project owner shall mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired construction equipment. Available measures which may be used to mitigate construction impacts include the following:

- Catalyzed Diesel Particulate Filters (CDPF);
- Ultra-Low-Sulfur Diesel fuel, with a sulfur content of 15 ppm or less (ULSD);
- Diesel engines certified to EPA and CARB 1996 or newer off-road equipment emission standards.

Additionally, the project owner shall restrict idle time, to the extent practical, to no more than 10 minutes.

The use of each mitigation measure is to be determined in advance by a Construction Mitigation Manager (CMM), who will be available at the project site(s). The CMM must be approved by the CPM prior to the submission of any reports.

The CMM shall submit the following reports to the CPM for approval:

- Construction Mitigation Plan;
- Reports of Change and Mitigation Implementation;
- Reports of Emergency Termination of Mitigation, as necessary

Diesel Construction Equipment Mitigation Plan

The Construction Mitigation Plan shall be submitted to the CPM for approval prior to rough grading on the project site, and must include the following:

1. A list of all diesel-fueled, off-road, stationary or portable construction-related equipment to be used either on the project construction site or the construction sites of the related linear facilities. Equipment used less than a total of 10 consecutive days need not be included in this list.
2. Each piece of construction equipment listed under item (1) must demonstrate compliance with the following mitigation requirements:

Engine Size (BHP)	1996 CARB or EPA Certified Engine	Required Mitigation
< or =100	Yes or No	ULSD
>100	Yes	ULSD
>100	No	ULSD and CDPF, if suitable as determined by the CMM

3. If compliance cannot be demonstrated as specified under item (2), then the project owner may appeal for relief to the CPM. However, the owner must demonstrate that they have made a good faith effort to comply as specified under item (2).

Report of Change and Mitigation Implementation

Following the initiation of construction activities, and if changes to mitigation measures are necessary, the CMM shall submit a Report of Change and Mitigation Implementation to the CPM for approval. This report must contain at a minimum the cause of any deviation from the Construction Mitigation Plan, and verification of any Construction Mitigation Plan measures that were implemented. The following is acceptable proof of compliance, other methods of proof of compliance must be approved by the CPM.

1. EPA or CARB 1996 off-road equipment emission standards:
 - a. A copy of the certificate from EPA or CARB.

2. Purchase and use of ultra-low-sulfur fuel (15 ppm or less).
 - a. Receipt or other documentation indicating type and amount of fuel purchased, from whom, where delivered and on what date; and
 - b. A copy of the text included in the contract agreement with all contractors and sub-contractors for use of the ultra-low-sulfur fuel in diesel burning construction equipment as identified in the Construction Mitigation Plan.
3. Installation of CDPF:
 - a. The suitability of the use of CDPFs is to be determined by a qualified LECEF mechanic or engineer who must submit a report to the CPM for approval.
 - b. Installation is to be verified by a qualified LECEF mechanic or engineer.
4. Construction equipment engine idle time:
 - a. A copy of the text included in the contract agreement with all contractors and sub-contractors to keep engine idle time to 10 minutes or less to the extent practical.

Report of Emergency Termination of Mitigation

If a specific mitigation measure is determined to be detrimental to a piece of construction equipment or is determined to be causing significant delays in the construction schedule of the project or the associated linear facilities, the mitigation measure may be terminated immediately. However, notification containing an explanation for the cause of the termination must be sent to the CPM for approval. All such causes are restricted to one of the following justifications and must be identified in any Report of Emergency Termination of Mitigation.

1. The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or power output due to an excessive increase in back pressure.
2. The measure is causing or is reasonably expected to cause significant engine damage.
3. The measure is causing or is reasonably expected to cause a significant risk to nearby workers or the public.

4. Any other seriously detrimental cause which has approval by the CPM prior to the change being implemented.

Verification: The project owner will submit to the CPM for approval the qualifications of the CMM at least 15 days prior to the due date for the Diesel Construction Equipment Mitigation Plan. The project owner will submit the Diesel Construction Equipment Mitigation Plan to the CPM for approval 10 calendar days prior to rough grading on the project site or start of construction on any associated linear facilities. The project owner will submit the Report of Change and Mitigation Implementation to the CPM for approval no later than 10 working days following the use of the specific construction equipment on either the project site or the associated linear facilities. The project owner will submit a Report of Emergency Termination of Mitigation to the CPM for approval, as required, no later than 10 working days following the termination of the identified mitigation measure. The CPM will monitor the approval of all reports submitted by the project owner in consultation with CARB, limiting the review time for any one report to no more than 20 working days.

AQ-SC3 The project owner shall require as a condition of its construction contracts that all contractors/subcontractors ensure that all heavy earthmoving equipment, including but not limited to bulldozers, backhoes, compactors, loaders, motor graders, trenchers, cranes, dump trucks and other heavy duty construction related trucks, have been properly maintained and the engines tuned to the engine manufacturer's specifications. The project owner shall further require as a condition of its construction contracts, that all heavy construction equipment shall not remain running at idle for more than five minutes, to the extent practical.

Verification: The project owner shall submit to the CPM, via the Monthly Compliance Report, a list of all heavy equipment used on site during that month including the owner of that equipment responsible for its maintenance and a letter from each owner indicating that the heavy equipment in question is properly maintained and tuned to manufacturer's specifications. The project owner shall maintain construction contracts on-site for six months following the start of commercial operation.

AQ-SC4 The project owner shall provide emission reductions sufficient to mitigate the project PM10 emissions of 44,238 lbs/year from October through March. This mitigation shall preferably be combustion sources within CPM approved proximity of the project site. This mitigation will be preferably targeted for the months of October through March of each year. This mitigation shall be approved by the CPM in total and initiated prior to first fire and must be fully realized prior to the second year of operation. This mitigation shall be developed from the following sources in order of preference:

1. The Bay Area Air Quality Management District, Wood Stove Retrofit or Replacement Program.
2. The Lower-Emission School Buses Program.
3. Other mitigation measures approved by the CPM via written CEC Air Quality Staff review.
4. The California Air Resources Board, Carl Moyer Program.
5. Emission Reduction Credits banked with the Bay Area Air Quality Management District and approved by the CPM via written CEC Air Quality Staff review.

Verification: At least 15 days prior to first fire the project owner shall submit to the CPM for approval, a complete description of the full mitigation strategy, including contacts, dollars to be spent, expected delivery dates, monitoring strategies (if necessary) and expected amounts of emission reductions. Periodic reports shall be required as deemed reasonable by the CPM for individual emission reduction sources.

AQ-SC5 The project owner shall prepare and implement a Construction Monitoring Demonstration Program (CMDP) to measure PM10 emissions during excavation, earthmoving and grading activities. The project owner shall submit the CMDP to the CPM for review and approval. The CMDP shall include, at a minimum, the following:

1. The use of real-time PM10 monitoring instruments;
2. The simultaneous use of upwind and downwind monitors continuously during these activities;
3. Description of how the monitors will be used to assess the effectiveness of the mitigation measures implemented under the FDMP, including assessing the potential need for monitoring multiple activities on site simultaneously;

Verification: At least 15 days prior to site mobilization, the project owner shall provide the CMDP to the CPM for review and approval. Monitoring records, including monitoring data from all upwind and downwind monitors, and records of dust suppression measures implemented, shall be maintained on-site throughout construction and shall be made available to the CPM upon request. A summary of the monitoring records and the dust suppression activities shall be included in each Monthly Compliance Report. Any changes to the CMDP or associated protocols require written approval from the CPM.

AQ-1 The owner/operator of the Los Esteros Critical Energy Facility shall minimize emissions of carbon monoxide and nitrogen oxides from S-1, S-2, S-3

and S-4 Gas Turbines to the maximum extent possible during the commissioning period. Conditions AQ-1 through AQ-11 shall only apply during the commissioning period.

Verification: The project owner/operator shall specifically demonstrate compliance with this Condition of Certification through the Verifications of Conditions of Certification AQ-5 and AQ-10.

AQ-2 At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the S-1, S-2, S-3 and S-4 Gas Turbine combustors shall be tuned to minimize the emissions of carbon monoxide and nitrogen oxides.

Verification: The project owner/operator shall specifically demonstrate compliance with this Condition of Certification through the Verifications of Conditions of Certification AQ-5 and AQ-10.

AQ-3 At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the SCR Systems (A-2, A-4, A-6 & A-8) and OC Systems (A-1, A-3, A-5 & A-7) shall be installed, adjusted, and operated to minimize the emissions of nitrogen oxides and carbon monoxide from S-1, S-2, S-3 and S-4 Gas Turbine.

Verification: The project owner/operator shall specifically demonstrate compliance with this Condition of Certification through the Verifications of Conditions of Certification AQ-5 and AQ-10.

AQ-4 Coincident with the steady-state operation of SCR Systems (A-2, A-4, A-6 & A-8) and OC Systems (A-1, A-3, A-5 & A-7) pursuant to AQ-3 the Gas Turbine (S-1, S-2, S-3 and S-4) shall comply with the NOx and CO emission limitations specified in Conditions AQ-19a and AQ-19c.

Verification: The project owner/operator shall specifically demonstrate compliance with this Condition of Certification through the Verifications of Conditions of Certification AQ-5 and AQ-10.

AQ-5 The owner/operator of the Los Esteros Critical Energy Facility shall submit a plan to the District Permit Services Division and the CPM for approval at least two weeks prior to first firing of S-1, S-2, S-3 and S-4 Gas Turbines describing the procedures to be followed during the commissioning of the Gas Turbines. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the water injection, the installation and operation of the required emission control systems, the installation, calibration, and testing of the CO and NOx continuous emission monitors, and any activities requiring the firing of the Gas Turbines (S-1, S-2, S-3 and S-4) without abatement by their respective SCR Systems. The Gas

Turbines (S-1, S-2, S-3 and S-4) shall be fired no sooner than fourteen days after the District receives the Commissioning Plan.

Verification: The project owner/operator shall submit a Commissioning Plan to the District Permit Services Division and the CPM for approval at least two weeks prior to first fire of S-1, S-2, S-3 and S-4.

AQ-6 During the commissioning period, the owner/operator of the Los Esteros Critical Energy Facility shall demonstrate compliance with conditions AQ-8 through AQ-10 through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:

- a. firing hours;
- b. fuel flow rates;
- c. stack gas nitrogen oxide emission concentrations;
- d. stack gas carbon monoxide emission concentrations; and
- e. stack gas oxygen concentrations.

The monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the S-1, S-2, S-3 and S-4 Gas Turbines. The owner/operator shall use District-approved methods to calculate heat input rates, nitrogen dioxide mass emission rates, carbon monoxide mass emission rates, and NO_x and CO emission concentrations, summarized for each clock hour and each calendar day. All records shall be retained on site for at least five years from the date of entry and made available to District or Commission personnel upon request.

Verification: The project owner/operator shall specifically include the installation of the monitors required by this Condition of Certification through the Verifications of Conditions of Certification AQ-5 and AQ-10.

AQ-7 The District-approved continuous monitors specified in condition AQ-6 shall be installed, calibrated, and operational prior to first firing of the S-1, S-2, S-3 and S-4 Gas Turbine. After first firing of the turbine, the detection range of these continuous emission monitors shall be adjusted as necessary to accurately measure the resulting range of CO and NO_x emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval.

Verification: The project owner/operator shall notify the District and CPM of the date of expected first fire at least 30 days prior to first fire and shall make the project site available for inspection if desired by either the District or CPM.

AQ-8 The number of firing hours of S-1, S-2, S-3 and S-4 Gas Turbines without abatement by SCR or CO Systems shall not exceed 400 100 hours during the commissioning period. Such operation of the S-1, S-2, S-3 and S-4 Gas Turbine

without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR or CO system in place. Upon completion of these activities, the owner/operator shall provide written notice to the District Permit Services and Enforcement Divisions and the unused balance of the 400 100 firing hours without abatement shall expire.

Verification: The project owner/operator shall specifically demonstrate compliance with this Condition of Certification through the Verification of Condition of Certification AQ-10.

AQ-9 The total mass emissions of nitrogen oxides, carbon monoxide, precursor organic compounds, PM10, and sulfur dioxide that are emitted by the S-1, S-2, S-3 and S-4 Gas Turbine during the commissioning period shall accrue towards the consecutive twelve-month emission limitations specified in condition AQ-22.

Verification: The project owner/operator shall specifically demonstrate compliance with this Condition of Certification through the Verification of Condition of Certification AQ-10.

AQ-10 The pollutant mass emissions from the S-1, S-2, S-3 and S-4 Gas Turbine shall not exceed the following limits during the commissioning period. These emission limits shall include emissions resulting from the start-up and shutdown of the S-1, S-2, S-3 and S-4 Gas Turbines.

Pollutant	Without Catalyst	With Catalyst		
	Lbs/day	lbs/hr	lbs/day	lbs/hr
NOx (as NO2)	1224	102	410	34.2
CO	1056	88	300	25
POC (as CH4)	114	-	114	-
PM10	240	-	240	-
SO2	32	-	32	-

Verification: The project owner/operator shall submit to the CPM for approval, a monthly emissions report that includes fuel use, turbine operation, post combustion control operation, ammonia use and CEM readings on an hourly and daily basis.

AQ-11 Within 60 days of startup, the Owner/Operator shall conduct a District approved source test using external continuous emission monitors to determine compliance with condition AQ-10. The source test shall determine NOx, CO, and POC emissions during start-up and shutdown of the gas turbines. The POC emissions shall be analyzed for methane and ethane to account for the presence of unburned natural gas. The source test shall include a minimum of three start-

up and three shutdown periods. Thirty days before the execution of the source tests, the Owner/Operator shall submit to the District and the CPM for approval, a detailed source test plan designed to satisfy the requirements of this condition. The Owner/Operator shall be notified of any necessary modifications to the plan within 20 working days of receipt of the plan; otherwise, the plan shall be deemed approved by both the District and CPM. The Owner/Operator shall incorporate the District and CPM comments into the test plan. The Owner/Operator shall notify the District and CPM within 10 days prior to the planned source testing date. Source test results shall be submitted to the District and CPM within 30 days of the source testing date. These results can be used to satisfy applicable source testing requirements in condition AQ-26 below.

Verification: The project owner/operator shall specifically include the source testing as required by this Condition of Certification through the Verification of Condition of Certification AQ-5. The project owner/operator shall submit the source test plan and results as required in the time frames indicated in this Condition of Certification.

OPERATIONS CONDITIONS OF CERTIFICATION

AQ-12 Consistency with Analyses: Operation of this equipment shall be conducted in accordance with all information submitted with the application (and supplements thereof) and the analyses under which this permit is issued unless otherwise noted below.

Verification: This Condition of Certification shall be verified in the quarterly reports required under Condition of Certification AQ-34.

AQ-13 Conflicts Between Conditions: In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible. All such conflicts must be reported as they are discovered to the CPM.

Verification: This Condition of Certification shall be verified in the quarterly reports required under Condition of Certification AQ-34 and as needed on an interim basis.

AQ-14 Reimbursement of Costs: All reasonable expenses, as set forth in the District's rules or regulations, incurred by the District for all activities that follow the issuance of this permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by the owner/operator as required by the District's rules or regulations.

AQ-15 Access to Records and Facilities: As to any condition that requires for its effective enforcement the inspection of records or facilities by representatives of the District, the Air Resources Board (ARB), the U.S.

Environmental Protection Agency (U.S. EPA), or the California Energy Commission (CEC), the owner/operator shall make such records available or provide access to such facilities upon notice from representatives of the District, ARB, U.S. EPA, or CEC. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.

Verification: The owner/operator shall maintain records for a minimum of five (5) years and provide access to records and facilities as requested by the CARB, EPA, District and CEC.

AQ-16 Notification of Commencement of Operation: The owner/operator shall notify the District and CPM of the date of anticipated commencement of turbine operation not less than 10 days prior to such date. Temporary operations under this permit are granted consistent with the District's rules and regulations.

Verification: The owner/operators shall notify the District and CPM of the date of anticipated commencement of turbine operation not less than 10 days prior to such date.

AQ-17 Operations: The gas turbine, emissions controls, CEMS and associated equipment shall be properly maintained and kept in good operating condition at all times when the equipment is in operation.

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-18 Visible Emissions: No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann 1 or equivalent 20 percent opacity.

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-19 Emissions Limits:

a. Oxides of nitrogen (NO_x) emissions from the gas turbine shall not exceed 5.0 ppmvd @ 15 percent O₂ (three-hour rolling average), except during periods of startup and shutdown as defined in this permit. The total NO_x emissions from the exhaust emission stacks associated with gas turbines S-1, S-2, S-3 and S-4 shall not exceed 34.20 lbs in any one clock hour, excluding those hours in which a startup or shutdown has occurred. The NO_x emission concentration shall be verified by a District-approved continuous emission monitoring system (CEMS) and during any required source test. (basis: BACT)

b. Ammonia emissions from the gas turbine shall not exceed 10 ppmvd @ 15 percent O₂ (one-hour rolling average), except during periods

of startup and shutdown as defined in this permit. The ammonia emission concentration shall be verified by the continuous recording of the ratio of the ammonia injection rate to the NO_x inlet rate into the SCR control system (molar ratio). The maximum allowable NH₃/NO_x molar ratio shall be determined during any required source test, and shall not be exceeded until reestablished through another valid source test. (basis: BACT)

c. Carbon monoxide (CO) emissions from the gas turbine shall not exceed 4 ppmvd @ 15 percent O₂ (three-hour rolling average), except during periods of startup and shutdown as defined in this permit. The CO emission concentration shall be verified by a District-approved CEMS and during any required source test. (basis: BACT)

d. Precursor organic compound (POC) emissions from the gas turbine shall not exceed 2 ppmvd @ 15 percent O₂ (one-hour rolling average), except during periods of startup and shutdown as defined in this permit. The POC emission concentration shall be verified during any required source test. (basis: BACT)

e. Particulate matter emissions less than ten microns in diameter (PM₁₀) from the gas turbine shall not exceed 2.5 pounds per hour, except during periods of startup and shutdown as defined in this permit. The PM₁₀ mass emission rate shall be verified during any required source test. (basis: BACT & cumulative increase)

f. Oxides of sulfur emissions (SO_x) from the gas turbine shall not exceed 0.33 pounds per hour, except during periods of startup and shutdown as defined in this permit. The SO_x emission rate shall be verified during any required source test. (basis: BACT & cumulative increase)

Verification: The project owner/operator shall verify all emission limits specified in this Condition of Certification as part of each quarterly report required in Condition of Certification AQ-34

AQ-20 Turbine Startup: Startup of the gas turbine shall not exceed a time period of 60 minutes each per occurrence, or another time period based on good engineering practice and approved in advance by the District. The startup clock begins with the turbine's initial firing and continues until the unit meets the emission concentration limits. (Basis: Cumulative increase)

Verification: The project owner/operator shall identify the occurrence of any startup as part of the quarterly report required in Condition of Certification AQ-34.

AQ-21 Turbine Shutdown: Shutdown of the gas turbine shall not exceed a time period of 30 minutes each per occurrence, or another time period based on good engineering practice and approved in advance by the District. Shutdown begins

with initiation of the turbine shutdown sequence and ends with the cessation of turbine firing. (Basis: Cumulative increase)

Verification: The project owner/operator shall identify the occurrence of any shutdown as part of the quarterly report required in Condition of Certification AQ-34.

AQ-22 Mass Emission Limits: Total mass emissions from the exhaust emission stacks associated with S-1, S-2, S-3 and S-4 Gas Turbine shall not exceed the daily, and annual mass emission limits listed in Table 1 below.

Table 1–Mass Emission Limits (Including Startups and Shutdowns)

Pollutant	Each turbine lb./day	Daily (4 units) (lb.)	Annual (tons)
NOx (as NO2)	205.2	821	74.9
POC	28.3	113	20.8
CO	99.8	399	72.9
SOx (as SO2)	7.9	32	5.8
PM10	60.0	240	43.8
NH3	151.7	607	110.7

The daily mass limits are on a Calendar Day basis as defined under Permit Conditions. The Annual Mass Limit is based on a rolling 8760-hour period ending on the last hour. Compliance shall be based on calendar average one-hour readings through the use of process monitors (e.g., fuel use meters), CEMS, and source test results; and the monitoring, record keeping and reporting conditions of this permit. If any part of the CEM, involved in the mass emission calculations, is inoperative for more than three hours of plant operation, the mass data for the inoperative period shall be calculated using a District approved Alternate Calculation. (Basis: Cumulative increase & record keeping)

Verification: The project owner/operator shall verify all emission limits in this Condition of Certification as part of the quarterly report required in Condition of Certification AQ-34.

AQ-23 Acid Limit: The sulfuric acid emissions (SAM) from S-1 through S-4 combined shall not exceed seven tons in any consecutive four quarters. (Basis: PSD)

Verification: The project owner/operator shall verify all emission limits in this Condition of Certification as part of the quarterly report required in Condition of Certification AQ-34.

AQ-24 Operational Limits: In order to comply with the emission limits of this rule, the owner/operator shall comply with the following operational limits:

- a. The heat input to any gas turbine shall not exceed:
- b. Hourly: 472.6 MMBtu/hr
Daily: 11,342 MMBtu/day

Four Turbines

Annual: 16,560,000 MMBtu/year

- c. Only PUC Quality natural gas (General Order 58-a) shall be used to fire the gas turbine. The natural gas shall not contain total sulfur in concentrations exceeding 0.25 gr./100 scf.
- d. The owner/operator of the gas turbine shall comply with the daily and annual emission limits listed in Table 1 by keeping running totals based on CEM data. (Basis: Cumulative increase)

Verification: The project owner/operator shall verify all limits in this Condition of Certification as part of the quarterly report required in Condition of Certification AQ-34.

AQ-25 Monitoring Requirements: The owner/operator shall comply with the following monitoring requirements for each gas turbine:

- a. The gas turbine exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods.
- b. The ammonia injection system shall be equipped with an operational ammonia flowmeter and injection pressure indicator accurate to plus or minus five percent at full scale and calibrated once every twelve months.
- c. The gas turbine exhaust shall be equipped with continuously recording emissions monitor(s) for NO_x, CO and O₂. Continuous emissions monitors shall comply with the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and shall be capable of monitoring concentrations and mass emissions during normal operating conditions and during startups and shutdowns.
- d. The fuel heat input rate shall be continuously recorded using District-approved fuel flow meters along with quarterly fuel compositional analyses for the fuel's higher heating value (wet basis).
- e. The total sulfur content of the fuel gas shall be analyzed on a quarterly basis. (Basis: Monitoring & record keeping)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-26 Source Testing/RATA: Within 60 days after startup of the gas turbines, and at a minimum on an annual basis thereafter, a relative accuracy test audit (RATA) must be performed on the CEMS in accordance with 40 CFR Part 60 Appendix B Performance Specifications and a source test shall be performed. Additional source testing may be required at the discretion of the District or Energy Commission to address or ascertain compliance with the requirements of this permit. The written test results of the source tests shall be provided to the District and CPM within thirty days after testing. A complete test protocol shall be submitted to the District and CPM no later than 30 days prior to testing, and notification to the District and CPM at least ten days prior to the actual date of testing shall be provided so that a District or Energy Commission observer may be present. The source test protocol shall comply with the following: measurements of NO_x, CO, POC, and stack gas oxygen content shall be conducted in accordance with ARB Test Method 100; measurements of PM₁₀ shall be conducted in accordance with ARB Test Method 5; and measurements of ammonia shall be conducted in accordance with Bay Area Air Quality Management District test method ST-1B. Alternative test methods, and source testing scope, may also be used to address the source testing requirements of the permit if approved in advance by the District and CPM. The initial and annual source tests shall include those parameters specified in the approved test protocol, and shall at a minimum include the following:

- a. NO_x – ppmvd at 15 percent O₂ and LB/MMBtu (as NO₂);
- b. Ammonia – ppmvd at 15 percent O₂ (Exhaust);
- c. CO – ppmvd at 15 percent O₂ and LB/MMBtu (Exhaust);
- d. POC – ppmvd at 15 percent O₂ and LB/MMBtu (Exhaust);
- e. PM₁₀ – LB/hr (Exhaust);
- f. SO_x – LB/hr (Exhaust);
- g. Natural gas consumption, fuel High Heating Value (HHV), and total fuel sulfur content;
- h. Turbine load in megawatts;
- i. Stack gas flow rate (SDCFM) calculated according to procedures in U.S. EPA Method 19;
- j. Exhaust gas temperature (°F);
- k. Ammonia injection rate (LB/hr or moles/hr); (Basis: source test requirements & monitoring)

Verification: The owner/operator shall submit to the District and the CPM for approval a RATA within 60 days after first fire and annually thereafter. The owner/operator submit to the District and the CPM for approval a source test protocol at least 30 days prior to the date of the source test. The owner/operator shall notify the District and the CPM of the date of the source test no later than 10 days prior the testing date. The owner/operator shall submit to the District

and the CPM for approval the results of the source test no later than 30 days following the date of the source test.

AQ-27 Within 60 days of start-up of the LECEF and on a semi-annual basis thereafter, the owner/operator shall conduct a District approved source test on exhaust points for S-1 through S-4 while each Gas Turbine is operating at maximum load to demonstrate compliance with the SAM levels in AQ-23. The owner/operator shall test for (as a minimum) SO₂, SO₃ and SAM. After acquiring one year of source test data on these units, the owner/operator may petition the District to switch to annual source testing if test variability is low. (Basis: PSD Avoidance, SAM Periodic Monitoring)

Verification: The project owner/operator shall verify all emission limits in this Condition of Certification as part of the quarterly report required in Condition of Certification AQ-34.

AQ-28 A written quality assurance program must be established in accordance with 40 CFR Part 75, Appendix B and 40 CFR Part 60 Appendix F. (Basis: continuous emission monitoring)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-29 The owner/operator shall comply with the applicable requirements of 40 CFR Part 60 Subpart GG. (Basis: NSPS)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-30 The owner/operator shall notify the District and the CPM of any breakdown condition consistent with the District's breakdown regulations. (Basis: Regulation 1-208)

Verification: The project owner/operator shall notify the CPM and the District of all breakdowns as required and include all break down reports as part of the quarterly report required in Condition of Certification AQ-34.

AQ-31 The District and the CPM shall be notified in writing in a timeframe consistent with the District's breakdown regulations following the correction of any breakdown condition. The breakdown condition shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the actions taken to restore normal operations. (Basis: Regulation 1-208)

Verification: The project owner/operator shall notify the CPM and the District of all breakdowns as required and include all break down reports as part of the quarterly report required in Condition of Certification AQ-34.

AQ-32 Record Keeping: The owner/operator shall maintain the following records:

- a. hourly, daily, quarterly and annual quantity of fuel used and corresponding heat input rates;
- b. the date and time of each occurrence, duration, and type of any startup, shutdown, or malfunction along with the resulting mass emissions during such time period;
- c. emissions measurements from all source testing, RATAs and fuel analyses;
- d. daily, quarterly and annual hours of operation;
- e. hourly records of NO_x and CO, emission concentrations and hourly ammonia injection rates and ammonia/NO_x ratio; and
- f. for the continuous emissions monitoring system; performance testing, evaluations, calibrations, checks, maintenance, adjustments, and any period of non-operation of any continuous emissions monitor. (Basis: record keeping).

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-33 All records required to be maintained by this permit shall be retained by the permittee for a period of five years and shall be made readily available for District inspection upon request. (Basis: record keeping)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-34 Reporting: The owner/operator shall submit to the District and the CPM for approval, a written report for each calendar quarter, within 30 days of the end of the quarter, which shall include:

- a. Hourly, daily and quarterly fuel use and corresponding heat input rates;
- b. Hourly, daily and quarterly mass emission rates for all criteria pollutants during normal operations and during other periods (startup/shutdown, breakdowns);
- c. Time intervals, date, and magnitude of excess emissions;
- d. Nature and cause of the excess emission, and corrective actions taken;
- e. Time and date of each period during which the CEM was inoperative, except for zero and span checks, and the nature of system repairs and adjustments;
- f. A negative declaration when no excess emissions occurred;

- g. Results of quarterly fuel analyses for HHV and total sulfur content. (Basis: record keeping & reporting).

Verification: The owner/operator shall submit to the District and the CPM for approval, written reports for each calendar quarter, within thirty (30) days of the end of the quarter.

AQ-35 Emission Offsets: The owner/operator shall offset the project emissions in the amount and at the ratios outlined in Table 2 below.

Table 2 – Emission Offsets

Pollutant	Emissions Requiring Offsets (tons/yr.)	Offset Ratio	Total ERCs Required (tons/yr.)
NOx (as NO2)	75.4	1.15	86.7
POC	20.9 21.0	1.00	20.9 21.0

The ERC certificates must be delivered to the District and copies to the CPM ten days prior to the issuance of the ATC. (Basis: Emission Offsets)

Verification: The project owner/operator shall submit all necessary ERC certificates to the District and copies to the CPM ten days prior to the issuance of the ATC.

AQ-36 District Operating Permit: The owner/operator shall apply for and obtain all required operating permits from the District according to the requirements of the District's rules and regulations. (Basis: Regulations 2-2 & 2-6)

Verification: The owner/operator shall submit all operating permits required to the CPM in the quarter that they were acquired as part of the quarterly report for Condition of Certification AQ-34.

AQ-37 Title IV and Title V Permits: The applications for modification of the Title IV and Title V permits must be delivered to the District prior to first-fire of the turbines. Also the acid rain monitors (Title IV) must be certified within 90 days of first-fire. (Basis: Regulation 2-6)

Verification: The owner/operator shall submit all operating permits required to the CPM in the quarter that they were acquired as part of the quarterly report for Condition of Certification AQ-34.

AQ-38 Sunset Provision: Within three years of CEC Approval, The owner/operator must convert to either a combined cycle or cogeneration plant using BACT in effect at the time of conversion. If conversion does not occur, the plant must cease operation. (Basis: California State Resources Code, Section 25552)

Verification: Within one year of the date of this Energy Commission decision, the project owner shall submit to the CPM, for review and approval, a schedule for submitting an Application for Certification for conversion of the project to a combined cycle facility employing best available air emissions control technology. Alternatively, within one year of the date of this Energy Commission decision, the project owner shall submit to the CPM, for review and approval, a schedule for submitting a Facility Closure Plan. Either the AFC or the Closure Plan shall be pursued on a schedule that ensures that the project will be either converted to a combined cycle facility or permanently closed within three years of this Energy Commission decision.

AQ-39 The S-5 Fire Pump Engine shall be fired exclusively on diesel fuel having a sulfur content no greater than 0.05 percent by weight. (Toxics, Cumulative Increase)

Verification: The project owner/operator shall include the diesel fuel use of the S-5 fire pump engine as part of the quarterly report required in Condition of Certification AQ-34.

AQ-40 The S-5 Fire Pump Engine shall be operated for no more than one hour per day and 100 hours per year for the purpose of reliability testing and non-emergency operation. The testing of S-5 Fire Pump Engine shall not occur on the same day as the testing of S-6 Emergency Generator. (BACT)

Verification: The project owner/operator shall include the operational hours of the S-5 fire pump engine as part of the quarterly report required in Condition of Certification AQ-34.

AQ-41 The S-5 Fire Pump Engine shall be equipped with a non-resettable totalizing counter that records hours of operation. (BACT)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-42 The following monthly records shall be maintained in a District-approved log for at least 5 years and shall be made available to the District upon request: (BACT)

- a. Total number of hours of operation for S-5;
- b. Fuel usage at S-5.

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-43 The S-6 Emergency Generator shall be fired exclusively on natural gas. (Toxics, Cumulative Increase).

Verification: The project owner/operator shall include the natural gas fuel use of the S-6 emergency generator as part of the quarterly report required in Condition of Certification AQ-34.

AQ-44 The S-6 Emergency Generator shall be operated for no more than two hours per day and 100 hours per year for the purpose of reliability testing or in anticipation of imminent emergency conditions. Emergency conditions are: (1) Failure of a regular power supply, or (2) involuntary curtailment of a power supply (where the utility that provides regular power has been instructed by the ISO to shed firm load, or where the utility has actually shed firm load). The testing of S-6 Emergency Generator shall not occur on the same day as the testing of S-5 Fire Pump Engine. (BACT, Cumulative Increase)

Verification: The project owner/operator shall include the operational hours of the S-6 emergency generator as part of the quarterly report required in Condition of Certification AQ-34.

AQ-45 The S-6 Emergency Generator shall be equipped with a non-resettable totalizing counter that records hours of operation. (BACT)

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-46 The following monthly records shall be maintained in a District-approved log for at least five years and shall be made available to the District upon request: (BACT)

- a. Total number of hours of operation for S-6;
- b. Fuel usage at S-6.

Verification: The owner/operators shall make access available to the facility and records upon request as set forth in Condition of Certification AQ-15.

AQ-47 The project owner shall submit drift eliminator design details and vendor specific emission justification for the correction factor to be used to correlate blowdown TDS to drift TDS and the amount of drift that stays suspended in the atmosphere in the equation in Condition of Certification AQ-52 to the CPM for approval.

Verification: Thirty days prior to commencement of construction of the cooling towers, the project owner shall submit the information required above to the CPM for approval.

AQ-48 The project owner shall submit cooling tower design details including the cooling tower type and materials of construction to the CPM for approval at least 30 days prior to commencement of construction, and at least 90 days before the tower is operated.

Verification: Thirty days prior to commencement of construction of the cooling towers, the project owner shall submit the information required above to the CPM for approval.

AQ-49 No hexavalent chromium containing compounds shall be added to cooling tower circulating water.

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission per Condition of Certification AQ-15.

AQ-50 Drift eliminator drift rate shall not exceed 0.0005 percent.

Verification: The project owner shall submit documentation from the selected cooling tower vendor that verifies the drift efficiency to the CPM for approval 30 days prior to commencement of construction of the cooling towers.

AQ-51 PM10 emission rate shall not exceed 2.16 lb/day.

Verification: Please refer to Condition AQ-52.

AQ-52 Compliance with the PM10 daily emission limit shall demonstrated as follows: $\text{PM10 lb/day} = \text{circulating water recirculation rate} * \text{total dissolved solids concentration in the blowdown water} * \text{design drift rate} * \text{correction factor}$.

Verification: The project owner shall compile the required daily PM10 emissions data and maintain the data for a period of five years. The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission per Condition of Certification AQ-15.

AQ-53 Compliance with PM10 emission limit shall be determined by circulating water sample analysis by independent laboratory within 90 days of initial operation and weekly thereafter.

Verification: The project owner shall compile the required daily PM10 emissions data and maintain the data for a period of five years. The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission per Condition of Certification AQ-15.

AQ-54 The owner/operator shall operate the facility such that maximum projected annual toxic air contaminant emissions (per AQ-55) from the gas turbines combined (S-1, S-2, S-3 and S-4) shall not exceed the following limits:

- a. 6000 pounds of formaldehyde per year;
- b. 3000 pounds of acetaldehyde per year;
- c. 1.7 pounds of specified polycyclic aromatic hydrocarbons (PAHs) per year;
- d. 60 pounds of acrolein per year

Unless the following requirement is satisfied:

The owner/operator shall perform a health risk assessment using the emission rates determined by source test and the most current Bay Area Air Quality Management District approved procedures and unit risk factors in effect at the time of the analysis. This analysis shall be submitted to the District and the CPM within 60 days of the source test date. The owner/operator may request that the District and CPM revise the carcinogenic compound emission limits specified above. If the owner/operator demonstrates to the satisfaction of the APCO that these revised emission limits will result in a cancer risk of not more than 1.0 in one million, the District and CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (TRMP)

Verification: See Condition of Certification AQ-55. The owner/operator shall submit any health risk assessment performed to the District and the CPM within 60 days of the source test date.

AQ-55 To demonstrate compliance with AQ-54, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions. These calculations shall be based on the maximum Heat Input of 16,560,000 MM Btu/year and the highest emission factor (pound of pollutant per MM Btu of Heat Input) determined by any source test of the S-1, S-2, S-3 & S-4 Gas Turbines. If this calculation method results in an unrealistic mass emission rate (the highest emission factor occurs at a low firing rate) the applicant may use an alternate calculation, subject to District and CPM approval. (TRMP)

Verification: The owner/operator shall submit these calculations and a summary of the results as part of each 4th quarter report to the CPM.

AQ-56 Within 60 days of start-up of the Los Esteros Critical Energy Facility, and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test at exhaust point P-1, P-2, P-3, or P-4 while the Gas Turbines are at maximum allowable operating rates to demonstrate compliance with AQ-54. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to AQ-54, for any of the compounds listed above, are less than the BAAQMD Toxic Risk Management Policy trigger levels shown here, then the owner/operator may discontinue future testing for that pollutant:

Formaldehyde	132 lbs./yr.
Acetaldehyde	288 lbs./yr.
Specified PAHs	0.18 lbs./yr.
Acrolein (TRMP)	15.6 lbs./yr.

Verification: The owner/operator shall submit a source testing methodology to the District and CPM for approval not more than 20 working days prior to the intended source test date. The owner/operator shall notify the District and the CEC CPM within seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District and the CEC CPM within 30 days of the source testing date.

B. PUBLIC HEALTH

The public health analysis supplements the previous discussion on air quality by examining potential public health effects from project emissions of toxic air contaminants. In this analysis, the Commission considers whether such emissions will result in significant adverse public health impacts that violate standards for public health protection.⁵⁹

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project construction and operation will result in routine emissions of toxic air contaminants (TACs).⁶⁰ These substances are categorized as noncriteria pollutants because there are no ambient air quality standards, established to regulate their emissions.⁶¹ (3/11/02 RT 184:6-18; Ex. 1, p. 4.7-1.)

In the absence of standards, state and federal regulatory programs have developed a health risk assessment procedure to evaluate potential health effects from TAC emissions.⁶² The Air Toxics Hot Spots Information and Assessment Act requires the quantification of TACs from specified facilities that

⁵⁹ This Decision addresses other potential public health concerns in the following sections. The accidental release of hazardous materials is discussed in Hazardous Materials Management and Worker Safety and Fire Protection section. Electromagnetic fields are discussed in the section on Transmission Line Safety and Nuisance. Potential impacts to soils and surface water sources are discussed in the Soils and Water Resources section. Hazardous and nonhazardous wastes are described in the Waste Management section.

⁶⁰ For a list of TAC's that were addressed by Applicant and Staff in the LECEF analysis, see **Table 1**, *infra*.

⁶¹ Criteria pollutants are discussed in the Air Quality section. They are pollutants for which ambient air quality standards have been established by local, state, and federal regulatory agencies. The emission control technologies that the project owner will employ to mitigate criteria pollutant emissions are considered effective for controlling noncriteria pollutant emissions from the same source.

⁶² The health-risk assessment protocol is set forth in the Air Toxics Hot Spot Program Risk Assessment Guidelines developed by the California Air Pollution Control Officers Association (CAPCOA) pursuant to the Air Toxics Hot Spots Information and Assessment Act (Health and Safety Code, § 44360 et seq.). (See, Ex. 1, p. 4.7–2; 5.)

are categorized according to their emissions levels and proximity to sensitive receptors. (Ex. 4C, p. 44; Health and Safety Code, § 44360 et seq.)

1. Health Risk Assessment

Applicant performed a health-risk assessment that was reviewed by Staff and the BAAQMD. Applicant's risk assessment employed scientifically accepted methodology that is consistent with the CAPCOA Guidelines and with methods developed by the California Office of Environmental Health Hazard Assessment (OEHHA). This approach emphasizes worst-case-screening analysis to evaluate the highest level of potential impact. (Exs. 1, pp. 4.7-1/2; 4C, p. 44.)

Applicant included the following steps in its analysis:

- Hazard identification in which each pollutant of concern is identified along with possible health effects;
- Dose-response assessment in which the relation between the magnitude of exposure and the probability of effects is established;
- Exposure assessment in which the possible extent of pollutant exposures from a project is established for all possible pathways by dispersion modeling; and
- Risk characterization in which the nature and the magnitude of the possible human health risk is assessed. (Exs. 1, pp. 4.7-1/2; 4C, p. 44.)

The risk assessment addresses three categories of health impacts: acute (short-term), chronic (long-term), and carcinogenic adverse health effects.⁶³

⁶³ For carcinogenic substances, the risk assessment considers the risk of developing cancer and assumes that continuous exposure to the cancer-causing substance occurs over a 70-year lifetime. The risk that is calculated is not meant to project the actual expected incidence of cancer, but rather a theoretical upper-bound number based on worst-case assumptions. In reality, the risk is generally too small to actually be measured. For example, the one in one million risk level represents a one in one million increase in the normal risk of developing cancer over a lifetime, at whatever location is estimated to have the worst-case risk. (Ex. 1, p. 4.7-3.)

Regulatory agencies use the hazard-index method to assess the likelihood of acute or chronic non-cancer effects. (3/11/02 RT 184:19-187-4; Exs. 1, p. 4.7-2.)

In this approach, a hazard index is a numerical representation of the likelihood of significant health impacts at the reference exposure levels (RELs) expected for the source in question. A total hazard index is obtained after calculating the hazard indices for the individual pollutants and adding these indices together. A total hazard index of 1.0 or less is considered an insignificant effect. (Ex. 1, p. 4.7-4.)⁶⁴

Staff relied upon state regulatory guidance implementing Proposition 65 to determine a cancer risk significance level.⁶⁵ For example, state standards specify that:

[T]he risk level which represents no significant risk shall be one which is calculated to result in one excess case of cancer in an exposed population of 100,000, assuming lifetime exposure.” This level of risk is equivalent to a cancer risk of ten in one million, or 10×10^{-6} (Title 22, Cal. Code of Regs., § 12703(b).)

An important distinction is that the Proposition 65 significance level applies separately to each cancer-causing substance, whereas staff determines significance based on the total risk from all cancer-causing chemicals. Thus, the manner in which the significance level is applied by Staff is more conservative (health-protective) than that which applies to Proposition 65. (Ex. 1, p. 4.7-4.)

⁶⁴ Staff's hazard index is a ratio comparing exposure from facility emissions to the reference (safe) exposure level. A ratio of less than one signifies that the worst-case exposure is below the safe level. The hazard index for every toxic substance, which has the same type of health effect, is added to yield a total hazard index. The total hazard index is calculated separately for acute and chronic effects. A total hazard index of less than one indicates that cumulative worst-case exposures are less than the reference exposure levels (safe levels). Under these conditions, health protection is likely to be achieved, even for sensitive members of the population. In such a case, Staff presumes that there would be no significant non-cancer project-related public health impacts. (Ex. 1, p. 4.7-4.)

⁶⁵ Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986 and its implementing provisions. (Health & Safety Code, §§ 25249.5 et. seq.)

BAAQMD's significant risk level (ten in one million) is consistent with the state's regulatory standard.⁶⁶ In addition, BAAQMD's Risk Management Policy states that a project with an incremental cancer risk of between one and ten in a million is acceptable if best available control technology (BACT) has been applied to reduce risk. In general, BAAQMD would not approve a project with a cancer risk exceeding ten in one million. (Ex. 1, p. 4.7-4.)

Potential cancer risk is calculated by multiplying the exposure estimate by the potency factors for the individual carcinogens involved. The exposure estimate is based on a worst-case scenario, which assumes a maximally exposed individual (MEI). The hypothetical MEI is an individual assumed to be located at the point where the highest concentrations of air pollutants associated with facility emissions are predicted to occur, based on air dispersion modeling for a significantly long time (7-70 years). Human health risks associated with toxic emissions from the proposed facility are unlikely to be higher at any other location than at the location of the MEI. If there is no significant impact associated with toxic concentrations in the air at the MEI location, it is unlikely that there would be significant impacts in any location near the facility. (Exs. 1, pp. 4.7-3; 4C, p. 44.)

By combining average toxic concentration levels from all monitoring sites within the BAAQMD with cancer risk factors specific to each contaminant, lifetime cancer risk can be calculated to provide a background risk level for inhalation of ambient air. In 1998, the background cancer risk calculated by BAAQMD for the Bay area was 199 in one million. The pollutants 1,3-butadiene and benzene, emitted primarily from mobile sources, were the two highest contributors to risk and together accounted for over half of the total. The risk from 1,3-butadiene

⁶⁶ The proposed site is within the jurisdiction of BAAQMD, which includes Santa Clara County as well as eight other Bay Area counties. BAAQMD conducts ambient monitoring of thirteen gaseous toxic air contaminants at 17 locations throughout the district, and must notify nearby residents when it determines that there is a significant health risk from a facility. (Ex. 1, p. 4.7-7; Health and Safety Code § 44362(b).)

was about 66 in one million, while the risk from benzene was about 58 in one million. Formaldehyde accounts for about seven percent of the 1998 average calculated cancer risk for the Bay Area, with a risk of about 13 in one million. Formaldehyde is emitted directly from vehicles and other combustion sources, such as the proposed LECEF project. (Ex. 1, p. 4.7-7.)

The use of reformulated gasoline, beginning in the second quarter of 1996, as well as other toxics reduction measures, have led to a decrease of ambient levels of toxics and associated cancer risk during the past few years. For example, cancer risk was 342 in one million based on 1992 data, 315 in one million based on 1994 data, and 303 in one million based on 1995 data. (Ex. 1, p. 4.7-7.)

The toxic air monitoring station closest to the LECEF project is on Fourth Street in San Jose. The 1997 ambient levels of the two pollutants, which contribute most to ambient risk (1,3-butadiene and benzene), were significantly higher at that station than the Bay Area average, probably due to mobile sources. In 1997, cancer risks in San Jose for 1,3-butadiene and benzene were about 162 and 78 in one million, respectively, compared to the Bay Area average of 58 and 54 in one million. However, 1998 data show that concentrations of 1,3-butadiene were lower in San Jose than the Bay Area average, while benzene levels were only marginally higher. In 1998, cancer risk for 1,3-butadiene was 51 in one million in San Jose compared to 66 for the Bay Area, while risk for benzene was 63 in one million in San Jose compared to 58 in the Bay Area. (Ex. 1, p. 4.7-7.)

Finally, features of the natural environment, such as meteorology⁶⁷ and terrain, affect the potential for the LECEF to impact public health. An emissions plume

⁶⁷ Meteorological conditions, including wind speed, wind direction, and atmospheric stability, affect the extent to which pollutants are dispersed into the ambient air as well as the direction of pollutant transport. This, in turn, affects the level of public exposure to emitted pollutants and associated health risks. When wind speeds are low and the atmosphere is stable, for example, dispersion is reduced and localized exposure may be increased. The climate at the project site is dominated by the influence of the Pacific Ocean and the Pacific high-pressure system, which is a semi-permanent, subtropical, high-pressure system located off the coast. The size and strength

from a facility may affect elevated areas before lower terrain areas, due to a reduced opportunity for atmospheric mixing. Consequently, areas of elevated terrain can often be subjected to increased pollutant impacts. Also, the types of land use near a site influence the surrounding population distribution and density which, in turn, affects public exposure to project emissions. Additional factors affecting potential public health impact include existing air quality and environmental site contamination.⁶⁸ (Ex. 1, p. 4.7-5.)

2. Potential Impacts

Topography at the LECEF site is relatively flat, with an elevation about 15 feet above sea level. Currently, land at the proposed site is classified as undeveloped prime farmland. Existing land uses in the project vicinity include a wastewater treatment plant and its buffer area, State Route 237, a bus yard, a mobile home park, wildlife refuge and agricultural and industrial uses. The nearest residential areas are approximately 3,200 feet (0.6 mile) southwest of the site, 4,200 feet (0.8 mile) east of the site and 7,500 feet (1.4 miles) southeast of the project site. The nearest schools are located about 5,300 feet (1 mile) and 6,900 feet (1.3 miles) northeast of the site in the city of Milpitas. (Ex. 1, p. 4.7-6.)

of the Pacific high is at a maximum during the summer, when it is at its northernmost position, and results in strong northwesterly air flow and negligible precipitation. During this period, inversions become strong, winds are light, and the pollution potential is high. The influence of the Pacific high weakens during the fall and winter when it moves southwestward, which allows storms from the Gulf of Alaska to reach northern California. About 80 percent of the annual rainfall in the region occur between November and March. During the winter, inversions are weak, winds often moderate and the potential for air pollution is low. Atmospheric stability is a measure related to turbulence, or the ability of the atmosphere to disperse pollutants due to convective air movement. Mixing heights (the height above ground level through which the air is well mixed and in which pollutants can be dispersed) are lower during mornings due to temperature inversions and increase during the warmer afternoons. (Ex. 1, p. 4.7-6; see our section on **Air Quality** *supra*.)

⁶⁸ See our sections on **Hazardous Materials Management, Worker Safety, and Waste**, *infra*, for a discussion of contamination at the site. As described in the Waste Management section, soils at the project site contain elevated levels of residual pesticides, including total DDT, and also dieldrin, endrin, lead and arsenic. Construction measures for worker safety are incorporated in the Conditions in our section on **Worker Safety**. (Ex. 1, p. 4.7-8.)

The Agnews Development Center (East Area) is located approximately 1.1 miles south of the LECEF site. Operated by the California Department of Development Services, Agnews Development Center provides care and treatment of the developmentally disabled.⁶⁹ (Ex. 4C, p. 43.) A childcare center recently opened at the Cisco Systems facility on Barber Lane in Milpitas, south of SR 237 and west of I880, approximately 1.1 miles southeast of the LECEF site. (Ex. 4C, p. 43.)

a) Construction

Potential risks to public health may be associated with exposure to toxic substances in contaminated soil disturbed during site preparation and from heavy equipment operation.⁷⁰ The operation of construction equipment will result in air emissions from diesel-fueled engines. Although diesel exhaust contains criteria pollutants such as nitrogen oxides, carbon monoxide, and sulfur oxides, it also includes a complex mixture of thousands of gases and fine particles. These particles are primarily composed of aggregates of spherical carbon particles coated with organic and inorganic substances. Diesel exhaust contains over 40 substances that are listed by the USEPA as hazardous air pollutants and by the CARB as toxic air contaminants. (Ex. 1, p. 4.7-8/9.)

Exposure to diesel exhaust causes both short- and long-term adverse health effects.⁷¹ Short-term effects can include increased cough, labored breathing,

⁶⁹ It includes its own gas-fired, combined-cycle cogeneration facility. (Ex. 4C, p. 43.)

⁷⁰ Criteria pollutant impacts from the operation of heavy equipment, particulate matter from earth moving equipment and the procedures for minimizing dust exposure are addressed in the **Air Quality** section. (See Conditions **AQ-SC1-AQ-SC4**.)

⁷¹ Applicant discusses exhaust emissions from construction activities in the AFC Appendix 8.1D. Diesel emissions are generated from sources such as trucks, graders, cranes, welding machines, electric generators, air compressors, and water pumps. Maximum daily emissions of 42.2 lb/day PM10 are determined, with 5.29 lb/day PM10 due to construction equipment and 36.87 lb/day due to fugitive dust emissions. Estimates are that about 12.5 percent of the total maximum daily PM10 emissions are due to construction equipment emissions. Modeling construction activities, which are assumed to occur for eight hours per day, gives a one-hour maximum concentration of 13.2 µg/m³ Appendix 8.1D, Table 8.1D-3). The modeled one-hour concentration at the nearest residential receptor is not presented in the AFC. (Ex. 2, [Vol. 2], App. 8.1D 2.2.14.)

chest tightness, wheezing, and eye and nasal irritation. Long-term effects can include increased coughing, chronic bronchitis, reductions in lung function, and inflammation of the lung. Epidemiological studies also strongly suggest a causal relationship between occupational diesel exhaust exposure and lung cancer. (Ex. 1, p. 4.7-9.)

Based on a number of health effects studies, the Scientific Review Panel on Toxic Air Contaminants (SRP) recommended:

- a chronic REL for diesel exhaust particulate matter of $5 \mu\text{g}/\text{m}^3$; and
- a cancer unit risk factor of $3 \times 10^{-4} (\mu\text{g}/\text{m}^3)^{-1.72}$

Applicant conducted air dispersion modeling to estimate the maximum in air concentration of diesel particulate matter at residential locations. This analysis indicated that carcinogenic risk due to the maximum exposure to diesel exhaust during construction activities would fall below thresholds used for regulating TAC emissions. Moreover, the maximum concentration of diesel particulate matter would be lower than the REL, which means that construction-related emissions of diesel particulate would not produce adverse health effects. (Exs. 1, p. 4.7-10; 4C, p. 44; 1G, p. 6.)

In order to mitigate potential impacts of particulate emissions from operation of diesel-powered construction equipment, Staff recommended and we approve of the use of ultra-low-sulfur diesel fuel and the installation of soot filters on stationary diesel equipment. (3/11/02 RT 183:1-24; Ex. 1G, p. 6.) The catalyzed diesel particulate filters are passive, self-regenerating filters that reduce particulate matter, carbon monoxide, and hydrocarbon emissions through catalytic oxidation and filtration. The degree of particulate matter reduction is

⁷² The SRP did not recommend a value for an acute REL, since available data in support of a value was deemed insufficient. On August 27, 1998, the ARB listed particulate emissions from diesel-fueled engines as a toxic air contaminant and approved SRP's recommendations regarding health effect levels. (Ex. 1, p. 4.7-9.)

comparable for both mitigation measures in the range of approximately 85-92 percent. Such filters will reduce diesel emissions during construction and reduce any potential for significant health impacts. (Ex. 1, p. 4.7-9; see Condition **AQ-SC2**.)

b) Operation

The emissions sources at the proposed LECEF project include:

- a fire pump diesel engine;
- an emergency generator;
- four simple-cycle gas turbines; and
- the cooling tower.

Potential public health risks are related to (1) diesel exhaust emissions from testing the diesel engine-driven fire pump, (2) natural gas combustion emissions from the gas turbines, and (3) noncombustion emissions from the cooling tower. Combustion-related toxic emissions are shown below in **Table 1**. (Ex. 1, p. 4.7-11.)

Table 1 lists combustion-related toxic emissions and demonstrates how each TAC contributes to the health risk analysis. For example, the first row shows that oral exposure to acetaldehyde is not of concern. But, if inhaled, it may have cancer and chronic (long-term) noncancer health effects, but not acute (short-term) effects. (Ex. 1, p. 4.7-11.)⁷³

⁷³ As noted earlier, the first step in a health-risk assessment is to identify potential TAC's that the facility may emit. Diesel exhaust emissions contain a number of TAC's. However, a chronic REL and cancer risk factor have been established for diesel particulate matter that may be used to characterize emissions from diesel engines (please see the above discussion under Construction Impacts). (Ex. 1, p. 4.7-10.)

PUBLIC HEALTH, Table 1
Types of Health Impacts and Exposure Routes Attributed to
Combustion-Related Toxic Emissions

Substance	Oral Cancer	Oral Noncancer	Inhalation Cancer	Noncancer (Chronic)	Noncancer (Acute)
Acetaldehyde			✓	✓	
Acrolein				✓	✓
Ammonia				✓	✓
Benzene			✓	✓	✓
1,3-Butadiene			✓	✓	
Ethylbenzene				✓	
Formaldehyde			✓	✓	✓
Hexane				✓	
Napthalene		✓		✓	
PAHs	✓	✓	✓	✓	
Propylene				✓	
Propylene oxide	✓		✓	✓	✓
Toluene				✓	✓
Xylene				✓	✓

Source: (Ex. 1, p. 4.7-11.)

The diesel engine used for the backup fire pump must be tested on a weekly basis in accordance with safety requirements, resulting in particulate emissions that must be analyzed for health effects. ((3/11/02 RT 184:23-185-5; Ex. 1, p. 4.7-10.)

BAAQMD's Risk Management Policy for Diesel Engines lists criteria for permitting stationary diesel engines, and states that:

[I]f the annual emissions would result in an incremental cancer risk equal to or less than one in one million (measured at the point of maximum residential or off-site worker exposure) over an exposure period of 70 years, the project is acceptable without further risk management considerations. (Ex. 1, p. 4.7-10.)

Noncriteria pollutants and the amounts (emission factors) that may be emitted from the cooling tower are shown below in **Table 2**. (Ex. 1, p. 4.7-11; see *also* Ex. 2, [Vol. 2], Table 8.6-2.)

PUBLIC HEALTH, Table 2
Types of Health Impacts and Exposure Routes
Attributed to Cooling Tower Emissions

Substance	Oral Cancer	Oral Noncancer	Inhalation Cancer	Chronic Noncancer	Acute Noncancer
Ammonia				✓	✓
Arsenic	✓	✓	✓	✓	
Cadmium		✓	✓	✓	
Chromium (III)				✓	
Copper				✓	
Lead		✓	✓	✓	
Mercury		✓			✓
Nickel			✓	✓	✓
Silver				✓	
Zinc				✓	

Source: (Ex. 1, p. 4.7-11.)

Cooling tower noncriteria emissions will originate from TAC's in the cooling source water that become entrained in liquid water droplets emitted as cooling tower drift.⁷⁴ **Table 2** lists these substances and shows how each contributes to the health risk analysis.

⁷⁴ LECEF will use treated wastewater from the San Jose/Santa Clara Water Pollution Control Plant (WPCP) for cooling. In the AFC, Applicant lists constituents found in WPCP wastewater that could be emitted as part of the drift. Also listed are the amounts of each pollutant released to the atmosphere in the cooling tower drift based on the pollutant levels in the circulating cooling water. (Exs. 1, p. 4.7-11; 2, [Vol. 1], § 2.2.14; Appendix 8.1, Tables 8.1A-7 & 8.14-1; see *also* our section on **Soil & Water Resources**, *infra*.)

Mr. Garbett's cross-examination sought to establish a concern about harmful public health effects from recycled water droplets in the cooling tower and the possible negative effect of "the ionic balance of a combustion process." (3/11/02 RT 166:10-171-19.) Applicant's witness established that there would be no significant risks to human health related to pathogens associated with the use of recycled water in the cooling towers. (Ex. 4C, p. 46.)⁷⁵

Applicant conducted a "worst-case" analysis to quantify potential emissions hazards. Maximum hourly emissions are required to calculate acute (one-hour), noncancer health effects, while estimates of maximum emissions on an annual basis are required to calculate cancer and chronic (long-term), noncancer health effects. (Ex. 1, p. 4.7-12.)

The emergency generator includes an 804-horsepower engine with a PM10 emission rate of 0.28 lb/hr. The diesel fire pump will be powered by a 368-horsepower engine with a PM10 emission rate of 0.073 lb/hr. According to Applicant's modeling, the diesel fire pump engine will have a maximum operation of 45 minutes/day and 100 hours/year. The emergency generator will have a maximum operation of one hour per day and 200 hours per year. The diesel fire pump engine and the emergency generator will not be tested on the same day. (Ex. 1, p. 4.7-12; see **Air Quality Tables 7 & 8.**)

Combustion gas turbines maximum-hourly fuel use, as shown in the AFC, is combined with the emission factor for each TAC estimate hourly and maximum annual emissions. Emission factors are estimates of the amounts of toxic substances released per unit of fuel burned and are from data compiled by the AP-42 and the California Air Toxic Emission Factors (CATEF) database

⁷⁵ Staff's public health expert, Dr. Alvin Greenberg, addressed Mr. Garbett's ionic balance concerns in detail explaining that such concerns were not currently validated in the scientific community. (3/11/02 RT 187:5-189-8.) We note that Dr. Greenberg during early public Staff workshops on the LECEF project had invited Mr. Garbett to submit any scientific data on the subject of ionic balance, but that none had been forthcoming. (3/11/02 RT 187:5-22.)

maintained by the CARB. ((Exs. 1, p. 4.7-12; 2, [Vol. 1], p. 8.1-26); Vol. 2, App. 8.1A, Tables 8.1-6 & 8.1A-6.)

Next in the health-risk assessment process is to estimate the ambient concentrations of toxic substances. This is accomplished by using a screening-air-dispersion model and assuming conditions that result in maximum impacts. The screening analysis was performed using the USEPA approved ISCST3 dispersion modeling program.⁷⁶

Finally, ambient concentrations were used in conjunction with RELs and cancer unit-risk-factors to estimate health effects, which might occur from exposure to facility emissions. Exposure pathways or ways in which people might be exposed to TAC's include:

- inhalation;
- dermal (through the skin);
- absorption;
- soil ingestion; and,
- consumption of locally grown plant foods, and mother's milk. (Ex. 1, p. 4.7-12.)⁷⁷

Dispersion modeling for diesel emissions from fire pump testing resulted in a maximum modeled annual impact at a location distinct from the location of the maximum cancer risk from the turbines. At the site of maximum cancer risk from the diesel fire pump engine, the maximum risk is determined by applying the diesel exhaust particulate unit-risk value to the maximum annual average PM₁₀ concentration. After adjusting for workplace exposure (46 years/70 years), the maximum risk is 0.14×10^{-6} . This is less than the significance level. (Ex. 1, p. 4.7-13.)

⁷⁶ See our Air Quality section for a detailed discussion of the modeling methodology.

⁷⁷ The above method of assessing health effects is consistent with CAPCOA's Air Toxics "Hot Spot" Program Revised 1992 Risk Assessment Guidelines (October 1993). (Ex. 1, p. 4.7-13.)

BAAQMD's FDOC states that since the health risk screening showed that the resulting increased carcinogenic risk is less than one in one million, the fire pump diesel engine is exempt from permit requirements. Both acute- and chronic-hazard indices are outside the REL of 1.0, indicating that no short- or long-term adverse health effects are expected, as **Table 3** demonstrates. Staff independently calculated noncancer hazard indices based on ground level concentrations presented in the AFC and obtained results similar to those presented in the AFC. (Ex. 1, p. 4.12-13.)

**PUBLIC HEALTH, Table 3
Operation Hazard/Risk**

Type of Hazard/Risk	Hazard Index/Risk	Significance Level	Significant?
Acute Noncancer	0.02	1.0	No
Chronic Noncancer	0.003	1.0	No
Individual Cancer	0.02×10^{-6}	1.0×10^{-5}	No

Source: (Ex. 1, p. 4.7-13.)

The screening health-risk assessment for the project, including combustion and noncombustion emissions, resulted in a maximum acute-hazard index of 0.02 at a location northeast of the proposed site. The chronic-hazard index at the point of maximum impact for chronic noncancer health effects is 0.003 and is located south and slightly east of the proposed facility. (Ex. 1, p. 4.7-13.)

Total worst-case individual cancer risk is estimated to be 0.02 in one million. As discussed earlier, this is the risk at the location where long-term pollutant concentrations are calculated to be the highest, and is at the same location as the maximum chronic hazard. Staff independently calculated cancer risk based on ground level concentrations presented in the AFC and obtained the same value that was presented in the AFC. (Ex. 1, p. 4.7-14; see **Table 3** above.)

c) Cumulative Impacts

The maximum cancer risk from the LECEF is 0.02 in one million, while the maximum risk from the diesel fire pump is 0.14 in one million. These risks occur at separate locations. If the maximum risk for both sources occurred at the same location, the cumulative risk would be 0.16 in one million. Maximum risk is not determined at the nearest residence. In comparison, BAAQMD estimated the Bay Area average lifetime cancer risk for inhalation of ambient air to be 199 in one million based on 1998 ambient average toxic concentration data. (Ex. 1, p. 4.7-14.)

The maximum impact location for the LECEF occurs where pollutant concentrations would theoretically be the highest. Even at this location, staff does not expect any significant change in lifetime risk to any person, and the increase does not represent any real contribution to the ambient risk of 199 in one million. Modeled facility-related risks are lower at all other locations, and actual risks are expected to be much lower, since worst-case estimates are based on conservative assumptions, and overstate the true magnitude of the risk expected. Thus, Staff concluded that incremental impacts of additional risks caused by the LECEF would be insignificant and not cumulatively considerable. (Ex. 1, p. 4.7-14.)

In addition, the worst-case, long-term health impact from LECEF (0.003 hazard index) is well below the significance level of 1.0 at the location of maximum impact. At this level, Staff concluded that any cumulative health impacts are expected to be insignificant. As with cancer risk, long-term hazard would be lower at all other locations and cumulative impacts at other locations would also be less than significant.

Finally, BAAQMD examined the issue of cumulative impacts from facilities affecting the same neighborhood and concluded that elevated concentrations of TAC's from stationary sources:

- tend to be quite localized; and

- that cumulative risks are likely to occur only when multiple facilities with substantial low-level emissions are immediately adjacent to, or very close to, one another. (Ex. 1, p. 4.7-14.)

Even in the unlikely event that worst-case emissions from an existing facility were to coincide both geographically and temporally with LECEF emissions at the location of maximum impact, the overall long-term health outlook would not change for anyone. Thus, the LECEF will not result in any significant cumulative cancer or chronic noncancer health impacts. (Ex. 1, p. 4.7-14.)

COMMISSION DISCUSSION

The evidence of record fully supports the conclusion that the LECEF will not cause any adverse health effects to the surrounding area. Intervenor Mr. Garbett failed to rebut Applicant's Public Health methodology. He also failed to produce any direct evidence to demonstrate any threat of harm to the public arising from cooling tower drift or ionic balance. We are indeed satisfied that Applicant has carried its burden of proof on this question. The conservative nature of the analysis and the methodology applied convince us that there is no significant and unmitigated Public Health impacts identified in our record.

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following findings and conclusions:

1. Normal operation of the proposed project will result in the routine release of criteria and noncriteria pollutants that have the potential to adversely impact public health.
2. Emissions of criteria pollutants, which are discussed in the Air Quality section of this Decision, will be mitigated to levels consistent with applicable standards.

3. Applicant performed a health-risk assessment, using well-established scientific protocol, to analyze potential adverse health effects of noncriteria pollutants emitted by the proposed project.
4. There are several sensitive receptors within a 1.5-mile radius of the project site.
5. Maximum impact location occurs where pollutant concentrations would theoretically be the highest. At this location, there is no significant change in lifetime risk to any person, and the increase does not represent any real contribution to the ambient risk of 199 in one million.
6. The significance level is 1.0 for both the acute and chronic noncancer hazard risk indices and the significance level is one in a million for individual cancer risk.
7. The screening health-risk assessment for the project, including combustion and noncombustion emissions, resulted in a maximum acute hazard index of 0.02 at a location northeast of the proposed site.
8. The chronic-hazard index at the point of maximum impact for chronic noncancer health effects, located south and slightly east of the proposed facility, is 0.003.
9. Total worst-case individual cancer risk is estimated to be 0.02 in one million at the same location as the maximum chronic hazard.
10. Modeled facility-related risks are lower at all other locations, and actual risks are expected to be much lower, since worst-case estimates are based on conservative assumptions, and overstate the true magnitude of the risk expected.
11. Acute and chronic non-cancer health risk from project emissions during construction and operational activities are insignificant.
12. The potential risk of cancer from project emissions is less than significant.
13. There is no evidence of cumulative public health impacts from project emissions.

The Commission therefore concludes that project emissions of non-criteria pollutants do not pose a significant direct, indirect, or cumulative adverse public health risk. All Conditions of Certification that control project emissions are specified in the **Air Quality** section of this Decision.

C. HAZARDOUS MATERIALS MANAGEMENT

Public safety concerns may arise from the construction and operation of a proposed project, especially with respect to the handling, transportation, and disposal of hazardous materials. Therefore, the Commission examines each power plant proposal to determine if the facility is designed to ensure the safe handling and storage of these materials. (Related issues are also addressed in the Waste Management, Worker Safety, and Traffic and Transportation portions of this Decision). A list of hazardous materials and a summary of special handling precautions to be used by Applicant may be found in the AFC. (Exs. 2, Table 8.12-2.)

SUMMARY OF THE EVIDENCE

Hazardous materials will be used during LECEF's construction and operation. The California Accidental Release Prevention Program (Cal-ARP) directs facility owners storing or handling acutely hazardous materials in reportable quantities, to develop a Risk Management Plan (RMP).⁷⁸ (Health and Safety Code, § 25531.) RMP's must be submitted to appropriate local authorities, the United States Environmental Protection Agency (EPA), and the designated local Administering Agency for review and approval. (Ex. 1, p. 4.4-2.)

Since LECEF is a facility that will potentially store or use hazardous materials, it is required to prepare and file a Hazardous Materials Business Plan (HMBP) with Santa Clara County, which is designated as the local Certified Unified Program Authority (CUPA). (H&S Code § 25503.5.) The HMBP is required to contain

⁷⁸ The RMP must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any preexisting evaluations or studies of the material, the likelihood of the substance being handled in the manner indicated, and the accident history of the material. This new, recently developed program supersedes the California Risk Management and Prevention Plan (RMPP). (Ex. 1, p. 4.4-2.)

information on the business activity, the project owner, a hazardous materials inventory, facility maps, an Emergency Response Contingency Plan, an Employee Training Plan, and other record keeping forms. (Ex. 1, p. 4.4-2.)

Hazardous materials to be used during project construction will include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint; and paint thinner. The quantities of hazardous materials that will be onsite during construction are small, relative to the quantities used during operation. The small quantities of fuel, oil, and grease that might drip from construction equipment will have relatively low toxicity and will be biodegradable. Thus, environmental impacts are likely to be negligible. These materials pose no significant potential for offsite impacts because of the small quantities stored onsite, their relative lack of toxicity, and environmental mobility. (Exs. 1, p. 4.4-5; 4D, p. 23.)

During operation, LECEF will store and use a number of hazardous materials onsite. Large quantities of aqueous ammonia (19 percent ammonia/81 percent water solution)⁷⁹, sulfuric acid,⁸⁰ sodium hypochlorite,⁸¹ lubricating and mineral

⁷⁹ LECEF will store approximately 10,000 gallons of aqueous ammonia onsite in a single storage tank. (Exs. 1, p. 4.4-5; 4D, p. 23; see Facility Design section, Table 1.) Title 8 generally codifies the requirements of several industry codes, including the ASME Pressure Vessel Code, ANSI K61.1 and the National Boiler and Pressure Vessel Inspection Code. While these codes apply to anhydrous ammonia, due to the large amounts of hazardous materials to be stored onsite, we are applying them to LECEF's design of storage facilities for aqueous ammonia. (**HAZ-4**; Title 8, CCR, § 458 and §§ 500 – 515.)

⁸⁰ LECEF will store approximately 6,000 gallons of sulfuric acid onsite. Staff conducted a quantitative assessment of the potential for impact associated with sulfuric acid use, storage, and transportation. Staff found no hazard would be posed to the public. However, in order to protect against risk of fire, we will require the project owner to ensure that no combustible or flammable material is stored, used, or transported within 100 feet of the sulfuric acid tank. (See Condition **HAZ-5**.) Staff found that sulfuric acid does not pose a risk of offsite impacts, because it has relatively low vapor pressures and thus spills would be confined to the site. (Exs. 1, p. 4.4-5; 4D, p. 23.)

⁸¹ LECEF will store approximately 8,000 gallons of sodium hypochlorite onsite. (Exs. 1, p. 4.4-5; 4D, p. 23.)

oils will be stored onsite.⁸² The chances for accidental mixing of aqueous ammonia and incompatible hazardous materials, for example, sodium hypochlorite—particularly during transfer from delivery vehicles to storage tanks—should be reduced as much as possible. Thus, measures to prevent such mixing are extremely important and will be required as an additional section within the Safety Management Plan for delivery of aqueous ammonia. (Ex. 1, p. 4.4-5; see Condition **HAZ-3**.)

Only aqueous ammonia has sufficient vapor pressure to potentially cause onsite and offsite impacts. (3/11/02 RT 272:18-276:25) Applicant will employ engineering controls such as enclosure of the tank within a secondary containment structure equipped with a water spray vapor control system. The choice to use aqueous ammonia significantly reduces the risk that would be associated with use of the more economical anhydrous form of ammonia. Use of the aqueous form eliminates the high internal energy associated with the more hazardous anhydrous form, which is stored as a liquefied gas at elevated pressure. Spills associated with the aqueous form are also much easier to contain than those associated with the anhydrous form.⁸³ (Exs. 1, p. 4.4-5/6; 4D, p. 23; see Condition **HAZ-3**.)

⁸² LECEF must develop and implement effective safety management plans (SMP) to insure that the large quantities of hazardous materials are handled safely. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the RMP process. (Title 8, CCR, § 5189.)

⁸³ In addition, relatively slow mass transfer from the free surface of the spilled aqueous solution limits emissions from a spill of aqueous ammonia. Indeed, evaporation of ammonia from a 19 percent solution is so slow that it presents a very small risk to offsite receptors. Accordingly, the US EPA RMP regulation and the Cal-ARP regulation (under certain specified conditions) specify that aqueous ammonia solution concentration less than 20 percent are exempt. Thus, an RMP may not be required by LORS. Nevertheless, Applicant did conduct an Offsite Consequence Analysis and found no significant risk would be posed to the public due to a worst-case catastrophic release of 16,000 gallons of 24 percent aqueous ammonia. Staff conducted its own Offsite Consequence Analysis. Staff's findings were consistent that because the facility will store no more than 10,000 gallons of a 19 percent solution, and provide for secondary containment, no significant offsite risk is posed to the public. LECEF's will also require the transportation of aqueous ammonia to the facility and we have conditioned that travel appropriately. (3/11/02 RT 261:22-263:23; Ex. 2, p. 8.12.3; see Traffic & Transportation section, *infra*, **TRANS-3**.)

Aqueous ammonia is typically handled safely and without incident. However mishandling can result in impacts on public health, particularly during transfer from a delivery vehicle to a storage tank. It is during this transfer operation that the greatest risk of an accidental spill and release could occur.⁸⁴ (Ex. 1, p. 4.4-6.)

Aqueous ammonia is routinely transported on California freeways, subject to federal and state laws, ordinances, regulations, and standards without incident. Transportation accident studies support a conclusion that incidents are highly dependent on the type of roadway and surroundings. Reported truck accident frequency is highest for an undivided multilane road (at 5.44 accidents per million miles) compared to 0.93 accidents per million miles for a freeway in rural California. (Ex. 1, p. 4.4-6; 4.10-1-3.)⁸⁵

Staff evaluated the proposed route to be used for shipment of hazardous materials to the facility, based upon an analysis of traffic patterns and LORS. The precise transportation route will not be determined until the hazardous material shipper contacts the California Highway Patrol (CHHP) and applies for a license. Because LECEF is located near all multi-lane freeways (U.S. 101, SR 237, and I-880), Staff concluded that it is unlikely that a serious release would occur while transporting hazardous materials. We concur and accept the

⁸⁴ A RMP for the proposed aqueous ammonia storage tank and delivery vehicle transfer pad will be prepared (if required by the Cal-ARP regulations) and submitted to the US EPA, CUPA and the Energy Commission CPM for review and approval. The HMBP (which shall include the proposed building chemical inventory as per the (UFC) will be prepared and submitted to the CUPA for review and to the Energy Commission CPM for review and approval prior to construction. (See Condition **HAZ-2**.)

⁸⁵ Similarly, the accident rate in urban California is highest for a multilane road that is undivided at 13.02 accidents per million miles vis-a-vis 1.59 accidents per million miles on a freeway. A recent study went even further to conclude that releases of hazardous materials on freeways rarely play a role in deaths or injuries. It is therefore reasonable to say that the likelihood of an accident involving a release of ammonia is probably higher on local roads than on the freeways. This is supported by a report observing that accident rates are typically much higher for two-lane rural roads compared to multi-lane highways. (Ex. 1, p. 4.4-6.)

conditions proposed to address transportation of aqueous ammonia and other hazardous materials. (3/11/02 RT 261:22-263:13; Ex. 1, p. 4.4-7; 4.10-10; see Conditions **HAZ-7-8 & TRANS 3.**)

Natural gas is the primary fuel source for LECEF. Although no natural gas is stored onsite, the LECEF will also involve the construction and operation of a natural gas pipeline and handling of large amounts of natural gas. Natural gas poses a fire and/or explosion risk because of its flammability. Staff concluded that the risk of a fire and/or explosion from natural gas can be reduced to insignificant levels through adherence to applicable codes and the development and implementation of effective safety management practices. (Ex. 1, p. 4.4-7.)

For example, (1) the use of double block and bleed valves for gas shut-off; (2) automated combustion controls; and (3) burner management systems are measures that will significantly reduce the likelihood of an explosion in gas-fired equipment. Additionally, start-up procedures will require air purging of the gas turbines prior to start-up, thus reducing the potential for an explosive mixture. (Ex. 1, p. 4.4-7, citing National Fire Protection Association (NFPA) Code 85A.)

A new 10-inch diameter pipeline, 550-feet in length, will be placed underground. The gas pipeline will connect to existing PG&E gas transmission lines 101 and 109.⁸⁶ The pipeline will follow the western boundary on the former Lin-Hom property north to the site. The design of the natural gas pipeline is governed by laws and regulations that require use and inspection of high quality arc welding techniques by certified welders.⁸⁷ (Exs. 1, p. 4.4-7; 2, § 6.0.)

⁸⁶ PG&E's lines 101 and 109 are located on the south side of the Lin-Hom property, adjacent to State Route 237, approximately 0.5 miles from the PG&E Milpitas Gas terminal. (Ex. 1, p. 4.4-7.)

⁸⁷ Many failures of older natural gas lines have been associated with poor quality gas welds, and corrosion. Current codes address these issues by requiring use of corrosion resistant coatings and cathodic corrosion protection. Another major cause of pipeline failure is damage resulting from excavation activities near pipelines. Current codes address this issue by requiring clear pipeline route marking. Existing codes also address seismic hazard in design criteria. Evaluations of pipeline performance in recent earthquakes demonstrate that pipelines designed

Applicant will install LECEF's 10-inch diameter natural gas pipeline to PG&E's specifications. The pipeline will be tested and designed for the appropriate pressure. If loss of containment occurs as a result of pipe, valve, or other mechanical failure or external forces, significant quantities of compressed natural gas could be released rapidly. Such a release can result in a significant fire and/or explosion hazard, which could cause loss of life and/or significant property damage near the pipeline route. Staff has concluded however, that the probability of such an event is extremely low if the pipeline is constructed according to present standards. (Ex. 1, p. 4.4-8.)

According to Department of Transportation (DOT) statistics, the frequency of gas line reportable incidents is about 0.25 for all pipeline incidents per 1,000 miles per year (or 2.5×10^{-4} incidents per mile per year). DOT has also evaluated and categorized the major causes of pipeline failure. To summarize, the four major causes of accidental releases from natural gas pipelines are:

- Outside Forces-43 percent;
- Corrosion-18 percent;
- Construction/Material Defects-13 percent;; and
- Other-26 percent. (Ex. 1, p. 4.4-8.)

Outside force includes damage caused by use of heavy mechanical equipment near pipelines (e.g., bulldozers and backhoes used in excavation activities), weather effects, vandalism, and earthquake-caused rupture.⁸⁸ The fourth category, "Other" includes equipment component failure, compressor station failures, operator errors and sabotage. The average annual service incident frequency for natural gas transmission systems varies with age, the diameter of the pipeline, and the amount of corrosion.

to modern codes perform well in seismic events while older lines frequently fail. (Ex. 1, p. 4.4-7/8.)

⁸⁸ As seen in the 1989 and 1995 earthquakes, respectively, in the Marina District of San Francisco during Loma Prieta, and in January 1995 in Kobe Japan. (Ex. 1, p. 4.4-8.)

Older pipelines have a significantly higher frequency of incidents. This results from the lack of corrosion protection and use of less corrosion resistant materials compared to modern pipelines, limited use of modern inspection techniques, and higher frequency of incidents involving outside forces. The increased incident rate due to outside forces is the result of the use of a larger number of smaller diameter pipelines in older systems, which are generally more easily damaged and the uncertainty regarding the locations of older pipelines. (Ex. 1, p. 4.4-8.)

Thus, the following safety features will be incorporated into the design and operation of LECEF's natural gas pipeline:

- (1) Butt welds will be X-rayed and the pipeline will be tested with water prior to the introduction of natural gas into the line;
- (2) the pipeline will be surveyed for leakage annually;
- (3) the pipeline will be marked to prevent rupture by heavy equipment excavating in the area; and
- (4) Valves at the meter will be installed to isolate the line if a leak occurs. (3/11/02 RT 263:23-265:2; Ex. 1, p. 4.4-8; see Conditions **HAZ-8-10**.)

Mr. Garbett raised an issue with respect to LECEF's use of polymers and their impact as a potential hazard to workers. Staff's expert, Dr. Greenberg, explained that he was familiar with the issue of material data sheets having been employed at Cal-OSHA as an Assistant Deputy Chief of Health when material data sheets were written. Dr. Greenberg assured the Committee and Mr. Garbett that polymer use as a hazardous material would have a negligible impact at the LECEF. Dr. Greenberg stated that polymers are used in very low amounts, not subject to measurement from any source. (3/11/02 RT 265:10-267:15.)

The Coalition raised a concern relative to the safety of USD workers. Offsite workers, as with the general public, would lack the hazardous material protection training and equipment of LECEF's employees in case of an accidental ammonia release. Again, Dr. Greenberg explained that Applicant and Staff's Offsite Consequence Analysis modeling demonstrated that a level of concern for

airborne concentration of ammonia would not be reached at USD, even in the case of a catastrophic release. Stated differently, although there would be a strong odor of ammonia in the area, generally, members of the public would not be incapacitated to a point where they would be physically impaired to leave the area. (3/11/02 RT 274:1-276:25.)

COMMISSION DISCUSSION

Having reviewed the testimony, the Committee is persuaded that Applicant and Staff have fully addressed all of the Intervenor's concerns. The weight of the evidence demonstrates that Applicant and Staff have identified the regulatory body of plans and practices, which govern the transportation, storage and use of hazardous materials at LECEF. Staff has concluded that any potential adverse impacts from the transport of aqueous ammonia can be easily reduced to a level of insignificance through the Applicant's conformance with applicable standards and laws, reinforced by Staff's proposed mitigation. In addition, Staff believes that existing regulatory requirements are sufficient to reduce the risk of accidental release from the natural gas pipeline to insignificant levels. We concur.

Finally, we conclude that as proposed, LECEF will cause no significant risk of offsite impacts. Thus, the direct impacts of the project will not add to any existing accidental release risks. As to closure, the requirements for handling of hazardous materials remain in effect until such materials are removed from the site regardless of when facility closure occurs. The facility owners are responsible for continuing to handle such materials in a safe manner, as required by applicable laws.

FINDINGS AND CONCLUSIONS

Based on the evidence of record concerning the topic area of Hazardous Materials Management, we find and conclude as follows:

1. LECEF will use hazardous materials at the facility.
2. Hazardous materials to be used during the construction phase of LECEF project include gasoline, diesel fuel, motor oil, hydraulic fluid, lubricants, solvents, cleaners, sealers, welding flux, paint, and paint thinner.
3. Hazardous materials to be used in substantial quantities during the operation phase of LECEF include natural gas and aqueous ammonia. Aqueous ammonia is the only hazardous material that will be stored, handled, and used onsite in reportable amounts.
4. The principal types of potential public health and safety hazards associated with the hazardous materials noted in Findings 2 and 3 above are the accidental release of ammonia gas and fire and explosion from natural gas.
5. Applicant will store approximately 10,000 gallons of aqueous ammonia on the LECEF site.
6. Applicant and Staff conducted Offsite Consequence Analyses and found no significant risk would be posed to the public due to a worst-case catastrophic release of aqueous ammonia.
7. The aqueous ammonia storage facility shall be designed to either the ASME Pressure Vessel Code or ANSI K61.6 or to API 620. In all cases, the storage tank structure shall be equipped with a water spray vapor control system and it shall be protected by a secondary containment basin capable of holding 150 percent of the storage volume plus the 24-hour rainfall from the 25-year storm event.
8. Applicant will store approximately 8,000 gallons of sodium hypochlorite onsite.
9. Applicant will store approximately 6,000 gallons of sulfuric acid onsite.
10. Staff conducted a quantitative assessment of the potential for impact associated with sulfuric acid use, storage, and transportation, and found that no hazard would be posed to the public.

11. Sulfuric acid does not pose a risk of offsite impacts, because it has relatively low vapor pressures and thus spills would be confined to the site. (Exs. 1, p. 4.4-5; 4D, p. 23.)
12. The mitigation measures incorporated in the Conditions of Certification below will ensure that risks to public health and safety from hazardous materials are reduced to an insignificant level.
13. The proposed project will not contribute to a cumulative risk to the public health and safety.
14. Implementation of the Conditions of Certification below will ensure that the proposed project will comply with the laws, ordinances, regulations, and standards related to hazardous materials management as specified in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the LECEF's use of hazardous materials will not create or contribute to any significant adverse public health and safety impacts from the handling or storage of hazardous materials.

CONDITIONS OF CERTIFICATION

HAZ-1 The project owner shall not use any hazardous material in any quantity or strength not listed in AFC Table 8.12-2 unless approved in advance by the CPM.

Verification: The project owner shall provide to the (CPM), in the Annual Compliance Report, a list of all hazardous materials contained at the facility.

HAZ-2 The project owner shall provide a Risk Management Plan RMP (if required by regulation) to the CUPA and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). A Hazardous Materials Business Plan HMBP (which shall include the proposed building chemical inventory as per the UFC) shall also be submitted to the CUPA for review and to the CPM for review and approval prior to construction. The project owner shall include all recommendations of the CUPA and the CPM in the final HMBP. A copy of the final RMP, including all comments, shall be provided to the CUPA and the CPM once it gets EPA approval.

Verification: At least 30 days prior to the commencement of construction of hazardous materials storage and containment structures, the project owner shall provide the final plans (RMP and HMBP) listed above to the CPM for approval.

HAZ-3 The project owner shall develop and implement a Safety Management Plan (SMP) for delivery of ammonia. The plan shall include procedures, protective equipment requirements, training and a checklist. It shall also include a section describing all measures to be implemented to prevent mixing of aqueous ammonia with incompatible hazardous materials.

Verification: At least 60 days prior to the delivery of aqueous ammonia to the ammonia storage tanks, the project owner shall provide a safety management plan as described above to the CPM for review and approval.

HAZ-4 The aqueous ammonia storage facility shall be designed to either the ASME Pressure Vessel Code and ANSI K61.6 or to API 620. In either case, the storage tank shall be protected by a secondary containment basin capable of holding 150 percent of the storage volume plus the 24-hour rainfall from the 25-year storm event.

Verification: At least sixty 60 days prior to delivery of aqueous ammonia to the storage tanks, the project owner shall submit final design drawings and specifications for the ammonia storage tank, the secondary containment basin, and the secondary containment building to the CPM for review and approval.

HAZ-5 The project owner shall ensure that no combustible or flammable material is stored, or used within 100 feet of the sulfuric acid tank.

Verification: At least 30 days prior to receipt of sulfuric acid onsite, the Project Owner shall provide to the CPM for review and approval copies of the facility design drawings showing the location of the sulfuric acid storage tank and the location of any tanks, drums, or piping containing any combustible or flammable material and the route by which such materials will be transported through the facility.

HAZ-6 The project owner shall direct all vendors delivering aqueous ammonia to the site to use only tanker truck transport vehicles, which meet or exceed the specifications of DOT Code MC-307.

Verification: At least 30 days prior to receipt of aqueous ammonia onsite, the project owner shall submit copies of the notification letter to supply vendors indicating the transport vehicle specifications to the CPM for review and approval.

HAZ-7 The project owner shall direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM (SR237 to Zanker Road to the facility).

Verification: At least 60 days prior to receipt of any hazardous materials onsite, the project owner shall submit to the CPM for review and approval, a copy of the letter to be mailed to the vendors. The letter shall state the required transportation route limitation.

HAZ-8 The project owner shall require that the gas pipeline undergo a complete design review and detailed inspection 30 years after initial startup and each 5 years thereafter.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide an outline of the plan to accomplish a full and comprehensive pipeline design review to the CPM for review and approval. The full and complete plan shall be amended, as appropriate, and submitted to the CPM for review and approval, not later than one year before the plan is implemented by the project owner. For subsequent inspections, the project owner shall provide to the CPM for review and approval any plan amendments, or a letter indicating there are none, at least one year before implementing the subsequent inspections.

HAZ-9 After any significant seismic event in the area where surface rupture occurs within one mile of the pipeline, the gas pipeline shall be inspected by the project owner.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide to the CPM a detailed plan to accomplish a full and comprehensive pipeline inspection in the event of an earthquake for review and approval. This plan shall be amended, as appropriate, and submitted to the CPM for review and approval, at least every five years.

HAZ-10 The natural gas pipeline shall be designed to meet CPUC General Order 112-D&E and 58 A standards, or any successor standards, and will be designed to meet Class III service. The pipeline will be designed to withstand seismic stresses and will be leak surveyed annually for leakage. The project owner shall incorporate the following safety features into the design and operation of the natural gas pipeline: (1) butt welds will be x-rayed and the pipeline will be pressure tested prior to the introduction of natural gas into the line; (2) the pipeline will be surveyed for leakage annually; (3) the pipeline route will be marked to prevent rupture by heavy equipment excavating in the area; and (4) valves will be installed to isolate the line if a leak occurs.

Verification: Prior to the introduction of natural gas into the pipeline, the project owner shall submit design and operation specifications of the pipelines to the CPM for review and approval.

D. WORKER SAFETY AND FIRE PROTECTION

Industrial workers use process equipment and hazardous materials on a daily basis. Accidents involving relatively small amounts of material can result in serious injuries. This topical analysis assesses the completeness and adequacy of the measures proposed by the Applicant to comply with applicable worker health and safety requirements.

SUMMARY OF THE EVIDENCE

The project will rely on both onsite fire protection systems and local fire protection services. The onsite fire protection system provides the first line of defense for small fires. Elements of the fire protection and suppression systems include a carbon dioxide fire protection system (FM200) to protect the turbine, generator and accessory equipment, and fire detection sensors. In addition, onsite fire protection services will include fire alarms, detection systems, portable fire extinguishers, and fire hydrants and hose stations throughout the plant. LECEF will supply a dedicated water supply that will provide the facility with two hours of fire protection from the onsite worst-case single fire. (Exs. 1, p. 4.14-9; 4E, p. 60; Uniform Fire Code.)⁸⁹

Applicant will be required to provide the final Fire Protection and Prevention Program (FPPP) to the CPM and to the SJFD prior to construction and operation of the project, to confirm the adequacy of the proposed fire protection measures. (Ex. 1, p. 4.14-9; see *also* Conditions **WORKER SAFETY 1, 2, and 3.**) The FPPP shall:

⁸⁹ The fire code contains general provisions for fire safety, including but not restricted to: 1) required road and building access; 2) water supplies; 3) installation of fire protection and life safety systems; 4) fire-resistive construction; 5) general fire safety precautions; 6) storage of combustible materials; 7) exits and emergency escapes; and 8) fire alarm systems. The California Fire Code reflects the body of regulations published at Part 9 of Title 24 (Health & Safety Code §18901 et seq.) pertaining to the California Fire Code. (Ex. 1, p. 4.14-3.)

- Address the requirements delineated in Articles 9 and 87 of the San Jose Fire Code;
- Identify the different automatic fire suppression systems that will be installed in the buildings and structures within the power plant site;
- Describe the fire alarm systems and emergency alarm systems that will be provided at the LECEF site. (3/11/02 RT 269:6-19; Ex. 1A, p. 4.14-1.)

According to Applicant, in case of a major fire, fire support services including trained firefighters and equipment for a sustained response would be required by the City of San Jose Fire Department. The closest fire station (San Jose Station No. 29) is at 199 Innovation Drive, approximately two miles away from the proposed site. Emergency response time is estimated to be five minutes. (Exs. 1, p. 4.14-9; 4E.)

The SJFD is not fully comfortable in its ability to provide first response services to a project fire since the City's travel standard for fire response is four minutes. First response from Fire Station 25⁹⁰ located at 1590 Gold Street is estimated at 5-6 minutes, in excess of the City of San Jose travel standard of 4 minutes but within the response time recommended by NFPA guidelines.⁹¹ (Ex. 1, p. 4.14-3.) Staff concluded that worker safety and health would be protected and that no impact on fire-fighting response would result if the LECEF were built. (3/11/02 RT 269:20-270-15; Ex. 1, p. 4.14-11.)

⁹⁰ Staff states that SJFD Station 25 is located at the edge of the San Francisco Bay and is proposed for relocation. Upon its planned relocation to a more centralized location, Station 25 will be closer to LECEF. The SJFD would then be able to respond to a fire at the proposed facility within its standard response time. Additional resources have been requested in a memo to the San Jose Planning Department to provide ongoing training of fire fighters to respond to fire emergencies at the proposed facility. This program will be included in the FPPP. (Ex. 1, p. 4.14-3.)

⁹¹ The National Fire Protection Association (NFPA) publishes the National Fire Codes, which are largely incorporated in the Occupational Safety and Health Act of 1970. (OSHA, 29 U.S.C. §§ 651 through 678; 29 C.F.R. (General Industry Standards) §§ 1910.1-1910.1500 (implementing regulations).) OSHA and its California regulatory counterpart (Cal/OSHA) mandate safety requirements in the workplace. (Ex. 1, p. 4.14-2; Cal. Labor Code § 6300 et seq.; 8 CCR §§ 3203 (employers required to establish a written Injury and Illness Prevention Program); 8 CCR § 337 (Cal/OSHA implementing regulations).)

In case of a hazardous material release, the SJFD's Hazardous Incident Team (HIT) would provide additional support. The HIT unit is located in north San Jose and serves the entire City of San Jose.⁹² (Ex. 4E, p. 60.) Applicant will prepare a Risk Management Plan for the handling of aqueous ammonia; no construction or operation will commence until all applicable training and risk management plans are implemented. (3/11/02 RT 254:1-8; Ex. 4E, pp. 61-62.)

Mr. Garbett on cross-examination questioned Applicant's witness with respect to previous site remediation that occurred on the recommendation of the SJFD. (3/11/02 RT 254:12-257-5.) Applicant's witness testified that a worker exposure-monitoring program was undertaken in conjunction with all of the demolition and remediation activities. (3/11/02 RT 257:2-5.) Mr. Garbett raised similar concerns regarding well closure and debris removal from the site, as well as water storage concerns as potential hazards to workers. (3/11/02 RT 257:6-260-25.)

On cross-examination of Staff's witness, Mr. Garbett raised a concern about the use of WPCP recycled water for fire fighting rather than a direct connection with the City of San Jose's fire mains. (3/11/02 RT 270:19-272-8.) Staff's expert testified that tertiary treated water was satisfactory for fire suppression. In addition, the witness testified that a WPCP connection was superior to a connection with San Jose's main in case of an earthquake. In the event that the city's fire main should rupture, LECEF's independent system would be able to withstand a seismic event. Likewise, where the city has to deploy its fire fighting forces elsewhere, LECEF's independent system provides a further level of reliability without a need for a dual hookup. (3/11/02 RT 271:1-272-8.)

⁹² For a fuller discussion of hazardous materials, see our **Hazardous Materials Management Section**, *supra*.

COMMISSION DISCUSSION

Having reviewed the testimony, the Committee is persuaded that Applicant and Staff have fully addressed Mr. Garbett's concerns. The weight of the evidence demonstrates that Applicant and Staff have identified the regulatory body of plans and practices, which provide for a safe work environment and effective fire protection at Applicant's proposed facility.

Moreover, the Conditions of Certification require Applicant to implement these plans and practices. Mr. Garbett submitted no evidence supporting any suggestion that Applicant has skirted the rules regarding worker safety. We find instead that Applicant will apply lawful measures in its site remediation work, well destruction, water systems delivery and the management of hazardous soils at the site. **WORKER SAFETY** Conditions 1, 2, and 3 ensure that Applicant will implement the required Construction and Operation Safety, Health, and Fire Prevention Plans.

FINDINGS AND CONCLUSIONS

Based upon the evidence of record regarding the topic of worker safety, we find and conclude as follows:

1. Applicant and Staff testimony is at variance with regard to the nearest City of San Jose Fire Department Station that would provide first response services to a LECEF project fire.
2. Applicant will be required to provide the final Fire Protection and Prevention Program to the CPM and to the San Jose Fire Department prior to construction and operation of the project.
3. No construction or operation will commence on the LECEF project until all applicable training and risk management plans are implemented.

4. Compliance with existing applicable LORS will adequately assure protection of worker health and safety during LECEF's construction and operation phases.
5. In order to comply with applicable requirements, Applicant must prepare and submit safety and health programs for LECEF's construction and operation phases.
6. The Conditions of Certification below require the submission and review of safety and health programs for LECEF's construction and operation phases.
7. Assuming compliance with the Conditions of Certification contained in this Decision, the LECEF project will comply with all LORS intended to protect worker health and safety and identified in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the LECEF project will adequately address worker safety and fire protection matters during the construction and operation phases.

CONDITIONS OF CERTIFICATION

WORKER SAFETY-1 The project owner shall submit to the CPM a copy of the Project Construction Injury and Illness Prevention Program containing the following:

- a Construction Safety Program;
- a Construction Personal Protective Equipment Program;
- a Construction Exposure Monitoring Program;
- a Construction Emergency Action Plan; and
- a Construction Fire Protection and Prevention Plan.

Protocol: The Safety Program, the Personal Protective Equipment Program, and the Exposure Monitoring Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable Safety Orders. The Construction Fire Protection and Prevention Plan and Emergency Action Plan shall be submitted to the City of San Jose Fire Department for review and comment prior to submittal to the CPM.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval copy of the Project

Injury and Illness Prevention Program. The project owner shall provide a letter from the City of San Jose Fire Department stating that the department has reviewed and accepted the Construction Fire Protection and Prevention Plan and the Emergency Action Plan.

WORKER SAFETY-2 the project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

- an Operation Injury and Illness Prevention Plan;
- an Emergency Action Plan;
- a Hazardous Materials Management Program;
- a Operations and Maintenance Safety Program;
- a Fire Protection and Prevention Program (8 CFR § 3221); and
- a Personal Protective Equipment Program (8 CFR § 3401-3411).

Protocol: The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the Cal/OSHA Consultation Service for review and comment concerning compliance of the program with all applicable Safety Orders.

The Operation Fire Protection Plan and the Emergency Action Plan shall also be submitted to the City of San Jose Fire Department for review and acceptance.

Verification: At least 30 days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operations and Maintenance Safety & Health Program. It shall incorporate Cal/OSHA Consultation Service's comments, stating that the service has reviewed and accepted the specified elements of the proposed Operations and Maintenance Safety and Health Plan.

WORKER SAFETY-3 the project owner shall prepare and submit to the CPM an Operations Fire Prevention Plan describing the onsite fire protection system that will be provided in this project. Specifically, information must be included on employee alarm/communication system, portable fire extinguisher placement and operation, fixed fire fighting equipment placement and operation, fire control methods and techniques, flammable and combustible liquid storage methods, methods for

servicing and refueling vehicles and fire prevention training programs and requirements. Additionally, information should be provided regarding the source of the onsite firewater, including storage if applicable and fire department hook-ups.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the City of San Jose Fire Department a copy of the final version of the Operations Fire Prevention Plan for review and comment and to the CPM for review and approval.

VII. ENVIRONMENTAL ASSESSMENT

As part of its statutory mandate, the Commission must analyze a project's potential effect upon various elements of the human and natural environments.

A. BIOLOGICAL RESOURCES

Our examination of biological resources focuses upon impacts to state and federally listed species, species of special concern, wetlands, and other areas of critical biological interest in the project vicinity. Here we summarize the potential biological resources impacts due to the project and its related facilities, and address the adequacy of mitigation measures necessary to reduce any identified impacts to less than significant levels.

SUMMARY OF THE EVIDENCE

The LECEF site is located approximately 750 feet west of the Coyote Creek Flood Control Project. The Flood Control Project, completed in 1997, consists of a levee wall, approximately 10 feet high and approximately 60 feet wide with an access road on top. At its closest, the levee is an estimated five feet from the creek's riparian vegetation (near the SR 237 overpass) and at its furthest, approximately 40 feet. At the southern one-third of the Cilker property (USD property), the Coyote Creek riparian corridor borders the in-board side of the levee. (Ex. 1A, p. 4.2-12.)

Within the flood control levee, the fresh water Coyote Creek (approximately 1,000 feet from the proposed LECEF site) flows in a rock-sided, low-flow channel north to the South San Francisco Bay. Coyote Creek is an area vegetated with typical native riparian vegetation including Fremont cottonwood, red willow, box elder, coast live oak, arroyo willow, western sycamore, and black walnut. Shrub and herbaceous species throughout the riparian corridor include blue elderberry,

mulefat, snowberry, California blackberry, poison oak, mugwort, and wild cucumber. Non-native vegetation present along this reach of the creek includes Himalayan blackberry, milk thistle, curly dock, and fumaria. Coyote Creek is a wildlife corridor and contains several hundred species including birds, mammals, amphibians, and reptiles. Several species (including the white-tailed kite, a fully protected species) has the potential to nest in this area.⁹³ (Ex. 1, p. 4.2-12.)

LECEF is approximately 1 to 1.5 miles south of the Don Edwards (formally San Francisco Bay) National Wildlife Refuge (NWR).⁹⁴ This area is a highly productive, diverse, and sensitive marsh habitat devoted to the preservation of salt marsh harvest mouse, nesting and migratory shorebirds, upland birds, mammals, and tidal invertebrates. Several bird species that are found in Don Edwards NWR, such as mallard and American coot, may use the LECEF site or adjacent properties as part of their foraging grounds. (Ex. 1A p. 4.2-12.)

Marshlands generally occur to the north and west of the project site, transitioning from sewage disposal ponds to salt evaporators, to the marshlands of the bay approximately eight miles northwest of the site. Seasonal wetlands occur along Coyote Creek in a bypass channel and at the upper edges of the marsh zones. The Guadeloupe River riparian corridor lies approximately two miles west of the proposed LECEF site. (Exs. 1, p. 4.2-5; 1A, p. 4.2-6.)

Several plant and animal species listed under state and/or federal Endangered Species Acts are known to inhabit the project region. (See **Tables 1 & 2** below.) Several plant and animal species considered as sensitive or listed under state

⁹³ In March 2000, the National Marine Fisheries Service (NMFS) designated critical habitat for Chinook salmon and Steelhead trout. These areas include California rivers (including estuarine areas and tributaries) within the range of each listed Evolutionary Significant Unit (ESU). Chinook salmon and Steelhead trout require aquatic, freshwater and saltwater habitats. The closest critical habitat for these species is Coyote Creek. (Ex. 1A p. 4.2-12.)

⁹⁴ Coyote Creek is part of the Don Edwards NWR. In addition, it is an area designated to be part of the refuge in the future. (Ex. 1A, p. 4.2-21.)

and/or federal Endangered Species Acts are identified as endemic (restricted) to serpentine soils in Santa Clara County. (See **Table 3**, below.)

BIOLOGICAL RESOURCES Table 1
Special Status Species found on the LECEF site and on contiguous parcels

Species Name	Regulatory Status [#]	Habitat of the Species	Known Occurrence In Project Area*
American white pelican <i>Pelecanus erythrorhynchos</i>	CSC	Wetland habitat; fresh and/or brackish; Sloughs, slow moving water, lake	Species observed on the project site.
Loggerhead shrike <i>Lanius ludovicianus</i>	SC, CSC	Annual grassland, Riparian habitat along Coyote Creek	Species observed on the project site. Suitable foraging and potential nesting habitat on site.
Northern Harrier <i>Circus cyaneus</i>	CSC	Wetland habitat; fresh and/or brackish, Cropland, Annual grassland	Species observed foraging over project site. Potential suitable foraging and nesting habitat on site.
White-tailed kite <i>Elanus leucurus</i>	FP	Annual grassland; Riparian habitat along Coyote Creek	Species observed foraging and nesting adjacent to project site. Potential suitable foraging habitat on site and potential for nesting in trees adjacent to site and within the Coyote Creek riparian corridor.
Western burrowing owl <i>Athene cunicularia</i>	SC, CSC	Annual grassland, Oak Woodland	Species known to occur near project site. Potential suitable foraging and nesting habitat on site.
Yuma myotis bat <i>Myotis yumanensis</i>	SC, CSC	Riparian habitat along Coyote Creek, Chaparral	Species observed foraging and roosting adjacent to project site. Potential suitable foraging habitat on site and potential for foraging and roosting within the Coyote Creek riparian corridor.

[#] Federal-, state-, and CNPS-listed species:

FE: Federally Endangered.

FT: Federally Threatened.

SC: Federal Species of Concern.

PE: Federal Proposed Endangered.

PT: Federal Proposed Threatened.

C: Candidate Species for Listing

SE: California Endangered.

ST: California Threatened.

* Prior to demolition of site structures for the USD site preparation (October through December, 2001).

Source: (Exs. 1, p. 4.2-6; 1A, p. 4.2-7.)

BIOLOGICAL RESOURCES Table 2
Special Status Species potentially occurring on the LECEF site and
on contiguous parcels*

Species Name	Regulatory Status [#]	Suitable Habitat for the Species	Known Occurrence In Project Area*
Plants			
Contra Costa goldfields <i>Lasthenia conjugens</i>	1B, FE	Annual grasslands mesic, Vernal pool	Species has been extirpated from most of Santa Clara County. Potentially suitable habitat near the site is highly degraded.
Birds			
White-tailed kite <i>Elanus leucurus</i>	SC, FP	Annual grasslands, Riparian habitat along Coyote Creek	Kites have nested along Coyote Creek in adjacent properties. Kites forage over the buffer lands property and may nest in trees along the north edge of the Cilker property.
Western burrowing owl <i>Athene cunicularia</i> ssp. <i>Hypugea</i>	SC, CSC	Annual grasslands	CDFG-protocol level surveys for USD (June 2000) found no sign and the 174 acres appears to be unoccupied. Habitat is consistent with potential nesting and foraging habitat.
Mammals			
Yuma myotis bat <i>Myotis yumanensis</i>	SC, CSC	Riparian habitat along Coyote Creek, Chaparral	Potential habitat along Coyote Creek riparian corridor.
Fish			
Fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	PE	Ocean, Freshwater streams	Migrate from the ocean to spawning sites in Coyote Creek.
Steelhead trout <i>Oncorhynchus mykiss</i>	FT	Ocean, Freshwater streams	Migrate from the ocean to spawning sites in Coyote Creek. Adults migrate upstream from January through April and smolts migrate downstream from March through May. Juveniles may remain in deep pools throughout the year.

[#] See footnote for Biological Resources Table 1.

*Prior to demolition of site structures for the USD site preparation (October through December 2001).

Source: (Ex. 1, p. 4.2-7.)

BIOLOGICAL RESOURCES Table 3
Special Status Species found on Serpentine Soils
In Santa Clara County

Species	Regulatory Status [#]	Distribution and Life History
Plants		
Santa Clara Valley dudleya <i>Dudleya setchellii</i>	FE, 1B	Several occurrences from San Jose south to San Martin (20 km); restricted to rocky outcrops within serpentine grasslands.
Smooth lessingia <i>Lessingia micradenia</i> var. <i>glabrata</i>	SC, 1B	Endemic to the east side of the Santa Cruz Mountains in Santa Clara County; grows on serpentine soils or outcrops.
Coyote ceanothus <i>Ceanothus ferrisiae</i>	FE, 1B	Suitable habitat at Anderson Dam, Kirby Canyon, and Morgan Hill; grows on dry slopes in serpentine chaparral and valley and foothill grasslands below 300 meters.
Metcalf Canyon jewel-flower <i>Streptanthus albidus</i> ssp. <i>Albidus</i>	FE, 1B	Occurrences from San Jose south to Anderson Lake (30 km); endemic to serpentine outcrops.
Mt. Hamilton thistle <i>Cirsium fontinale</i> var. <i>campylon</i>	SC, 1B	Several occurrences in Santa Clara County and other counties; found in serpentine seeps.
Tiburon paintbrush <i>Castilleja affinis</i> ssp. <i>Neglecta</i>	FE, ST, 1B	Occurs in serpentine bunchgrass communities in Marin, Napa, and Santa Clara counties. Less than 20 plants are in Santa Clara County.
Most beautiful jewel-flower <i>Streptanthus albidus</i> ssp. <i>Peramoenus</i>	SC, 1B	On the ridges of Santa Clara County and elsewhere; grows between 140 and 700 meters in elevation on serpentine outcrops or ridges and slopes in chaparral and valley foothill grassland.
Invertebrates		
Opler's longhorn moth <i>Adela oplerella</i>	SC	Nine populations in Santa Clara County, but also occurs throughout in the greater San Francisco Bay area. Habitat restricted to its exclusive host plant, California cream cups (<i>Platystemon californicus</i>).
Bay checkerspot butterfly <i>Occidryas editha</i> ssp. <i>Bayensis</i>	FT	Habitat now limited and patchily distributed in several counties; the four core areas on Coyote Ridge provide a reservoir critical to the survival of the Santa Clara County metapopulation; all habitat is on shallow, serpentine-derived or similar soils which support the butterfly's larval food plants.

[#] See footnote for Biological Resources Table 1.

Source: (Exs. 1, p. 4.2-8; 1A, p. 4.2-9.)

1. Impacts

LECEF's construction will result in the permanent loss of 18 acres. Applicant proposes to use this space for the new simple-cycle plant and switchyard. The footprint site and laydown areas are located on 55-acres of highly disturbed land that was previously covered by a greenhouse/agricultural complex. The greenhouses have since been removed and the site footprint cleared of structures and vegetation that could provide wildlife shelter.⁹⁵ Thus, the site does not provide suitable foraging habitat, and there are no wetlands or sensitive plant species on LECEF's proposed site. However, sensitive wildlife species, such as the loggerhead shrike, northern harrier, burrowing owl, and white-tailed kite have been known to forage either on or in the immediate vicinity of the site. (Exs. 1, p. 4.2-11/12,17; 1A, p. 4.2-11-14; 4I, p.18.)

Staff has discussed around-the-clock construction impacts with jurisdictional agencies. Staff reports that no species listed by the U.S. Fish and Wildlife Service (USFW) are expected to occur on-site or in the adjacent parcels. However, species of concern identified by the California Department of Fish and Game (CDFG) are present on site and in the riparian corridor surrounding Coyote Creek. Based upon Staff's consultation with USFW and CDFG, we have incorporated measures, which reduce 24-hour construction impacts to less than significant levels. (Ex. 4.I1; see Condition **BIO-10**.).

Habitat loss impacts are less than significant because the wide range of species affected will have large amounts of undeveloped WPCP buffer lands within 0.25 mile for alternate foraging. (Ex. 1A, p. 4.2-19; see **Table 4**, below.)

⁹⁵ As a safety matter under its police authority, the City of San Jose (Fire Department) requested Applicant to dismantle and remove the abandoned greenhouses and buildings. (Ex. 1A, p. 4.2-13-14.) The dismantling did not cause significant impacts to state or federally listed species. A colony of Yuma myotis bat (state and federal species of concern) was removed from a building on November 7, 2001, prior to demolition. This species usually has several alternative roost sites, and no significant impact is expected. (Ex. 1A p. 4.2-19.)

BIOLOGICAL RESOURCES Table 4
Habitat Loss (acreage) from Construction of LECEF

Project Component	Permanent	Temporary
Power plant	18 (8.5 ¹ + 9.5 ²)	0
Access road and wastewater return line	5 ³	5 ³
Stormwater discharge	0	0.12 (0.05 ⁴ + 0.07 ³)
Parking and construction laydown area	0	20 ¹
Natural gas pipeline	0	1.5 ¹
Temporary Transmission Line	0	3.3 (3.2 ³ + 0.1 ¹)
Recycled water line	(same impacts as access road)	2 ³
TOTAL	23.00	31.92

¹ Agricultural land reverted to disturbed grassland (with ruderal species)

² Lite industrial and residential facilities

³ Agricultural land

⁴ Upland floodplain, outside of the drip-line of trees

Source: (Ex. 1A, p. 4.2-19.)

Three mature trees onsite were identified as having the potential for nesting by medium sized raptors, but none were observed utilizing the trees during field surveys. Mature tree(s) loss would result in a temporary impact of nesting and roosting loss for at least five years (the time between the tree removal and the self-sufficiency of the replaced trees). There are several potential nesting and roosting trees along the Coyote Creek corridor that may have the same nesting and roosting qualities that could be used in the interim and the removal of the mature trees will have a less than significant impact.⁹⁶ (Exs. 1, p. 4.9-12; 4I, p.17.)

Surveys for burrowing owls found that owls were not present on the LECEF site or on the Cilker property although the LECEF site and adjacent properties are consistent with potential nesting and foraging habitat for burrowing owls. USD surveys found nearby properties did have evidence of nesting birds, including the WPCP's buffer lands. Burrowing owls were observed along the proposed USD

⁹⁶ The City of San Jose Tree Removal Controls serve to protect all trees having a trunk measuring 56 inches or more in circumference (18 inches in diameter) at the height of 24 inches above the natural grade of slope. The ordinance protects both native and non-native species. The loss of any significant tree(s), which are neither irreversibly diseased, dead, or dying nor are substantially damaged from natural causes requires a removal permit from Santa Clara County and/or the City of San Jose. (Ex. 1, p. 4.2-5/12-13.) We have incorporated the City of San Jose's Tree Ordinance into our Conditions. (See Conditions **BIO-13-14.**)

potable water line alignment west of Zanker Road and at a burrowing owl relocation area within a bus maintenance facility, just south of SR 237 and east of Zanker Road.⁹⁷ (Ex. 1, p. 4.2-12; see **Table 2** above.)

Upon cross-examination of Applicant's expert biology witness, Intervenor Coalition determined that Applicant had conducted burrowing owl surveys in January 2002, and found no evidence of resident owls in the area. Applicant confirmed that a full time biological monitor would be on the project site during construction to ensure that proper measures would be taken in the event that owls are observed on-site. (3/11/02 RT 284:16-285-14.) Condition **BIO-1**, **BIO-2**, and **BIO-3** provide that an approved designated Biologist shall be onsite during all construction activity.

The City of San Jose Riparian Corridor Policy provides that projects near riparian areas should remove non-native vegetation. LECEF's landscaping plan will include weed control and provide for the removal of non-native vegetation. Without the build-out of USD, the landscaping at LECEF could reach Coyote Creek and cause potential harm to the community structure. Applicant will provide Staff with a draft Landscaping Plan prior to construction. (See Condition **BIO-7**; see *also our section*.)

On May 1, 2002, Applicant presented the Santa Clara Valley Water District (SCVWD) with a revised storm water outfall design based on the use of the

⁹⁷ Impacts to burrowing owls could occur if construction activities occurred near (within a 250-foot buffer) active nests or if foraging habitat next to nesting sites is permanently removed. These types of impacts are typically mitigated by avoidance, and if this cannot be done, then mitigated by acquiring (either by direct purchase or conservation easement) suitable burrowing owl habitat. No sign of burrowing owls has been found during the 2000 and 2001 surveys; however the species may move into the area at any time. Surveys will be performed to verify the presence or absence of this species prior to site mobilization, and the survey results will be sent to the California Department of Fish and Game (CDFG). The burrowing owls seen during surveys for the USD linears would not be directly impacted by LECEF or its linear facilities. Cumulative losses of this species habitat are discussed below. (Exs. 1, p. 4.2-12; 1A, pp. 4.2-20/21; see *also* Table 2 above & Condition **BIO 11**.)

existing storm water outfall located in the high flow channel. On May 7, 2002, after receiving the SCVWD's comments on this revised outfall design, Applicant submitted the final design drawings necessary for the SCVWD to issue a construction permit. The SCVWD is expected to issue the permit on May 31, 2002. (5/20/02 RT 180:10-24; Ex. 4.11; see Condition **BIO-15**.)⁹⁸

Chemicals used during greenhouse operation included DDT and other pesticides and herbicides, which have saturated into the soils on LECEF's proposed site. These chemicals need to be controlled so they remain on-site and are not carried off by wind or rain to off-site locations where sensitive species occur. The contaminated soils are being remediated as a result of the demolition, and LECEF will be placed on uncontaminated soils. Staff concluded that no additional conditions of certification are required to protect off-site resources. (Ex. 1A, p. 4.2-19.)

The LECEF will include a 90-foot combustion exhaust stack. Bird collisions with exhaust stacks and other tall structures can result in significant bird losses when these structures are located in areas where suitable habitat attracts bird populations. Most bird collisions/deaths occur during migration in inclement weather. The site and immediate surrounding areas do not contain attractive habitat (e.g., freshwater marsh or ponds) for low-flying flocking birds on either side, which would create a large "cross-over" effect, increasing the chances of collision. Therefore, the proposed 90-foot stack (lighted or unlighted) is unlikely to increase bird collisions or otherwise cause harm to wildlife.⁹⁹ (Ex. 1A, p. 4.2-19.)

⁹⁸ Applicant has submitted the revised outfall design drawings to the CDFG as an amendment to the Section 1600 (Streambed Alteration Agreement) permit determination. Applicant believes that no Streambed Alteration Agreement ultimately will be required. However, if required the CDFG is expected to issue the permit by the end of June or early July 2002. (5/20/02 RT 181:7-187-11; Ex. 411 p. 7.)

⁹⁹ We accept this conclusion without relying on Staff's further conclusion that USD's construction of 45-foot buildings would also discourage low-flying bird from entering the LECEF site. (Ex. 1A, p. 4.2-19.)

Because of uncertainty about when PG&E's Los Esteros Substation will be constructed, PG&E will construct a temporary 2,000 foot tap-line to its existing Nortec-Trimble lines to the south of the site for LECEF's interconnection to the grid.¹⁰⁰ (3/11/02 RT 89:19-91:15; Ex. 4F, p. 53.) The temporary interconnection will be installed next to a dirt road across fallow agricultural land to Zanker Road, temporarily disturbing 3.1 acres. Elements of wetlands plant communities (0.2 acre) were found near the large Fremont cottonwood along the dirt road. Potential pull sites or staging areas are to be placed on the 55-acre parcel and WPCP bufferlands west of Zanker Road, but the applicant does not have a final design. Staff has assumed the pulldown sites will temporarily disturb two areas outside of the new transmission line's disturbance: 0.1 acre of disturbed grassland habit. (Ex. 1A, p. 4.2-15.)

A new natural gas pipeline (approximately 550 feet) will travel on a north-south axis from the southwest portion of the LECEF project site to the existing natural gas pipelines near Alviso-Milpitas Road, at the southwest corner of Applicant's property. This pipeline will require the construction of a two-foot wide, one-foot deep trench. Vegetation communities in the natural gas pipeline route include agricultural land and agricultural land that has reverted to disturbed grassland (with ruderal species).¹⁰¹ (Ex. 1A, p. 4.2-16.)

¹⁰⁰ LECEF's permanent connection to PG&E's Los Esteros substation would involve an approximately 220 foot underground interconnect from LECEF's switchyard to the Los Esteros substation, which will abut the north end of LECEF's proposed site. These proposed interconnects are extremely short and occur on land already disturbed during construction of the two facilities. No biological resources would be affected under this scenario. (Ex. 1A, p. 4.2-14/15.)

¹⁰¹ As we have noted, these areas provide potential habitat for several sensitive raptor species, and significant trees may have to be removed during installation. (Ex. 1A, p. 4.2-16.) In addition, we note that the stormwater pipeline will require construction of a two-foot wide, one-foot deep trench. Right-of-way construction will temporarily disturb approximately 0.07 acre of agricultural land to the west of the Coyote Creek flood control levee and 0.05 acre of upland floodplain to the east of the levee, for a total temporary impact of 0.12 acre. No permanent disturbance would result because the aboveground portion of the outfall structure (pipe or concrete riser) will be placed on an area of exposed rip-rap. (Ex. 1A, p. 4.2-15.)

LECEF's primary access road (approximately 2,700 feet) will cross west-east from Zanker Road to just north of Alviso-Milpitas Road and SR 237.¹⁰² The secondary access road (approximately 100 feet) will run north-south and connect the primary access road to SR 237. The emergency access road will cross west-east from Zanker Road and then south to the southwestern portion of the PG&E Los Esteros Substation. Grading and paving the roads will require a construction zone of approximately 80 feet in width, resulting in the permanent loss of five acres. This area contains small trees, agricultural land, and agricultural land reverted to disturbed grassland (with ruderal species).¹⁰³ The primary access road avoids the wetland delineated for USD. (Ex. 1A, p. 4.2-16.) Mr. Garbett's cross-examination focused on the impacts to wildlife, such as migratory birds, likely to result from loss of a parcel of feeding grounds in the north-south migratory path taken as a result of LECEF's construction and operation. (3/11/02 RT 282:3-284-15.)

Worker parking and staging areas will be located on Applicant's 55-acre property, and would result in the temporary disturbance of 20 acres. (3/11/02 RT 282:3-233-11; 290:3-25; 292:2-16; Ex. 1E.) Vegetation communities included agricultural land and/or agricultural land reverted to disturbed grassland (with ruderal species). Because of the demolition work ordered by the City of San Jose, only five mature trees and no vegetation communities currently exist onsite.¹⁰⁴ (Ex. 1A, p. 4.2-16; see **Table 4** above.)

¹⁰² LECEF will use reclaimed water from and return wastewater to the WPCP. A new recycled water line (approximately 1,000 feet) and a new wastewater line (approximately 2,700 feet) will run east to west entirely along the northern shoulder of the proposed primary access road.

¹⁰³ Habitat loss impacts are less than significant because the wide range of species affected will have large amounts of undeveloped WPCP buffer lands within 0.25 mile for alternate foraging. (Ex. 1A, p. 4.2-19; see **Table 4**, below.)

¹⁰⁴ The 55-acre site is surrounded with agricultural lands and the noise and lights from construction crews and storage areas are unlikely to cause harm to peripheral biological resources. Laydown area disturbances would be temporary in nature and similar to those from the construction on the power plant site. Mitigation used on the power plant site will be applicable here and will reduce all impacts to less than significant levels. (Ex. 1A p. 4.2-21.)

Staff asserted that the following impacts could occur as a result of Applicant's 24-hour (around the clock) construction schedule:

- The increase of lighting and noise at night would be adverse to diurnal wildlife (species active during the day) which require resting in the cover of trees (especially riparian areas) during the night-time hours.
- The increase of lighting at night would be adverse to nocturnal species which forage in unlit areas, but would increase forage opportunities for nocturnal predators seeking insects attracted to lights. The beneficial impact of construction on nocturnal predators is dependent on the level of noise being generated. The noise generated must be lower than the species level of tolerance.
- The continuous light and noise from construction would prevent the temporary use of the open space areas for foraging by species more tolerant of uninhabited-but-urban landscapes (such as dove and mice).
- The increased human presence would increase the likelihood that human intolerant species would avoid the riparian and willow cottonwood habitat (north of the agricultural lands and along the evaporation ponds) entirely for the length of the construction window.
- The increase of light and noise could interrupt the migration of corpulent wildlife (species active during dawn and dusk) along the riparian corridor, or force these species into unsafe areas (such as onto State Route 237) when they attempt to avoid the disturbance.
- The San Francisco Bird Observatory has been accessing a bird banding station in Coyote Creek on Wednesdays, Saturdays, and Sundays since 1983. The Observatory volunteers access the bird banding station by opening the gate at the Cilker property (at Alviso-Milpitas Road) and travelling north one-mile along the "upper" levee wall road. The critical times for data collection are when bird migration is highest, such as September and October. Construction activities which remove/disrupt access along the Coyote Creek levee road (between Alviso/Milpitas Road and the Water Treatment Plant's sludge ponds, 1 mile north) could interrupt this important research.

We have adopted measures, which address the potential impacts of around-the-clock construction and reduce 24-hour construction impacts to less than significant levels. (Ex. 4.11; see Condition **BIO-10**; paragraphs 9, 10, 16, 17, 18.)

2. Indirect Effects

Staff evaluated several indirect impacts associated with the proposed LECEF including: nitrogen deposition;¹⁰⁵ the effluent discharged from the WPCP;¹⁰⁶ and, noise and nighttime light on sensitive species in adjacent land during operation. Staff concluded that the project may have minor effects on the soils that support the host plants for the Bay checkerspot butterfly but insufficient data exists to show any indirect impact. In addition, Staff did not identify any indirect impacts for the benefit of species identified in *the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area*. These are serpentine endemics (or near endemics), which are limited to small-localized areas where conditions give them an advantage over non-native species.¹⁰⁷ (Ex. 1A, p. 4.2-20; see **Table 3**, above.)

¹⁰⁵ LECEF's operation will emit several air pollutants, including nitrogen dioxide and ammonia slip, into the atmosphere. These chemical components often react with the atmosphere to form fertilizing agents (NH_3 and HNO_3). Nitrogen deposition is the amount of nitrogen that converts to particulate and accumulates on soil or other surfaces. The modeling of *nitrogen* deposition is based on several conservative assumptions regarding chemical conversion rates, weather conditions, and minimum loss of mass. Depending on vegetation type, the nitrogen deposition rate considered sufficient to affect ecosystem structure and diversity is 3 to 10 kg/ha/yr. 8.4 kg/ha-yr. Is the current best estimate of nitrogen deposition in the vicinity of San Jose. LECEF's modeling of nitrogen deposition estimates that nitrogen deposition would concentrate near Silver Creek in north San Jose. Deposition levels decline in a northwest-southeast axis in relation to distance away from the site and intervening topography. For example, the average nitrogen deposition at USFWS's Silver Creek Critical Habitat Unit and Kirby Critical Habitat Unit to the S/W, is modeled to be 0.0283 kg/ha/yr. versus 0.0168 kg/ha/yr., respectively. (Ex. 1A, p. 4.2-22; see *infra* our discussion on **Cumulative Impacts**.)

¹⁰⁶ Refer to our sections on Soil and Water Resources and Waste for a full discussion on effluent discharge.

¹⁰⁷ There are several identified occurrences of serpentine plants within the nitrogen deposition plume. Applicant's nitrogen deposition analysis indicates there is a 0.02 to 0.2% increase above background in the vicinity of these plants. The populations of these species are threatened by development pressures in the greater San Jose area, and for some populations, recreational disturbance or cattle grazing. The recovery plan does not identify nitrogen deposition or invasion by non-native grasses (or weeds) as a threat to the Santa Clara County plant populations, but it is a threat to Mt. Diablo State Park's populations of "most beautiful jewelflower." (Ex. 1A, p. 4.2-20; see **Table 3** above.)

Discharged effluent from San Jose Water Pollution Control Plant (WPCP) flows into Artesian Slough, which is on City of San Jose property. Artesian Slough is hydrologically connected to Coyote Creek. WPCP's federal NPDES permit limits the effluent discharge to 120 million gallons per day.¹⁰⁸ Staff concluded that LECEF's discharges would not result in a measurable change in the WPCP's permitted discharge amounts or chemical limits. Staff concluded further that LECEF's discharge, when combined with the current WPCP discharge, are not expected to:

- change the current conditions at Don Edwards NWR; and
- effect the habitat for the salt marsh harvest mouse and the California clapper rail. (Ex. 1A, p. 4.2-21.)

In summary, Staff's analysis concluded that with appropriate Conditions, which we have adopted, the LECEF would comply with the following environmental standards:

- Critical habitat and recovery plan goals involving both the bay checkerspot butterfly and the California red-legged frog are not viewed as directly impacted significantly by the LECEF project;¹⁰⁹
- Surface waters will be impacted to less than significant levels through the introduction of grading, erosion, and pollution control measures;
- Noise impacts during construction will likely reduce diurnal wildlife activity (e.g. birds) in the area on a temporary basis but no significant adverse are expected during operation;¹¹⁰

¹⁰⁸ The National Pollution Discharge Elimination System (NPDES) permit. WPCP's discharges are limited to protect against converting from salt marsh to brackish or freshwater marsh, the habitat of the salt marsh harvest mouse and the California clapper rail. (Ex. 1A, p. 4.2-21.)

¹⁰⁹ In the California red-legged frog recovery plan, the USFWS proposed to protect existing core and migration habitat. Although Coyote Creek does not have standing water suitable for breeding, the riparian corridor can assist in dispersal of this species. LECEF will install an outfall in an area of potential red-legged frog dispersal habitat, and this will cause the temporary loss of 0.05 acres of upland floodplain habitat. The construction would not remove any riparian trees or cause disturbance within the dripline of trees. Thus, Staff does not consider this level of loss significant because the area is currently low-quality for breeding, and temporary removal will not preclude dispersal movement. If individuals were present in Coyote Creek, the pre-construction surveys and avoidance measures required in Condition **BIO-15** should avoid impacts to this species. (Ex. 1A, p. 4.2-22.)

- Landscape lighting design would be non-glare to reduce light reaching off-site receptors and the riparian corridor. This design will reduce any adverse impacts to nocturnal wildlife; (see Condition **BIO-17**);
- Impacts to migration corridors for neotropical migrant bird species and Coyote Creek's potential breeding and migration habitat for other sensitive species such as the California red-legged frog and sensitive fish species will not be significant;¹¹¹
- Ordinance and native mature tree losses are mitigated because Applicant will replace the loss of any and all significant trees at a ratio of 4:1 (mitigation: impacts), and the City of Sa Jose will permit and mitigate the removal of trees as part of the Planned Development Permit (see Conditions **BIO-12** & **BIO-13**; Native Mature Tree Replacement Plan/Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP);
- Habitat conservation plans (HCPs) establishing preserves within serpentine habitat of Santa Clara County will ensure that impacts on the bay checkerspot butterfly are not regional in nature, and the development of LECEF would not conflict with the provisions of these plans;
- Biological resources of commercial or recreational value on the LECEF project site are insignificant and indirect impacts from construction are expected to be temporary and insignificant;¹¹² and

¹¹⁰ The City of San Jose's *Riparian Corridor Policy Study Guidelines* requires projects adjacent to riparian corridors to be designed to minimize potential noise impacts to wildlife. (Ex. 1A, p. 4.2-24.)

¹¹¹ Because the eastern edge of the LECEF site is about 1,000 feet from Coyote Creek, LECEF will comply with the City of San Jose's minimum setback limit of 100 feet from the edge of the riparian corridor (or top of bank, whichever is greater). (Ex. 1A, p. 4.2-27.)

¹¹² Trails either are in place or are planned near LECEF. These trails are acknowledged in the Alviso Master Plan, the San Jose 2020 General Plan, and Santa Clara County's Trails Master Plan. Pedestrians and bicyclists in most cases are intended users. The trails, however, also will likely increase recreational fishermen use of the creek. To the north, bordering the WPCP sludge drying ponds and buffer lands, there is the San Francisco Bay Trail. To the east, the Coyote Creek/Llagas Creek Trail is planned along the west side of Coyote Creek and one is planned along the east side of Coyote Creek. There is also a trail on the south side of the LECEF property, just north of State Route 237. Construction in the area of the trails during installation of the stormwater outfall pipe could temporarily disturb species that are of recreational value to trail users. (Ex. 1A, p. 4.2-28.)

- Revegetation with like species of approximately 20 acres of disturbed grassland (to be used for the parking and laydown area) after construction is not expected to result in a significant impact because there already is a high percent of ruderal species that exist within these 20 acres and surrounding areas. (Ex. 1A, pp. 4.2-22/29; see **Table 4**; Condition **BIO-17**.)

3. Cumulative Impacts¹¹³

Construction simultaneously of PG&E's Los Esteros Substation, USD, and LECEF may have a combined greater impact from dust and noise from heavy equipment on nearby biological resources than if they were built at separate times. The projects are directly adjacent to or on agricultural lands, WPCP buffer lands, and Coyote Creek, all of which provide foraging and nesting habitat for sensitive species. For example, LECEF's construction will result in an impact to burrowing owls permanent removing of 13.5 acres (8.5 + 5 acres) of potential foraging and nesting habitat. Thus, Staff concluded that the combined impact of constructing one or both of these projects at the same time as LECEF would be significant. (Ex. 1A, p. 4.4-29, see **Table 4**, above.) Staff found that measures to prevent such cumulative impacts have been proposed in the environmental document to both USD and the substation. Staff recommends that LECEF follow these measures as well to ensure impacts are mitigated to less than significant levels. (Ex. 1A, p. 4.2-29; see Condition **BIO-11**.) We adopt this recommendation and require Applicant to include such mitigation measures in its BRMIMP pursuant to Condition **BIO-8**.

For USD's 110 acres of habitat disturbance (60¹¹⁴ acres of the 174-acre site were considered as developed), the City of San Jose's analysis calculated 55 acres of

¹¹³ The CEQA Guidelines define cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." (14 Cal. Code of Regs., § 15355; (Ex. 1, p. 4.2-29.)

¹¹⁴ Only LECEF's power plant site were part of the 60 acres removed from the City of San Jose habitat loss calculation. Staff estimates that part of the power plant site (8.5 out of 18 acres) and all linear facilities are potential habitat for burrowing owls. (Ex. 1A, p. 4.2-29.)

foraging habitat was necessary to reduce cumulative impacts to less than significant levels. However, the City of San Jose adopted the EIR without mitigating for the cumulative loss of burrowing owl foraging habitat, and it remains a significant and unmitigated impact if USD is built. The continued loss of such foraging habitat is a significant cumulative impact that jeopardizes the continued existence of burrowing owls in the Santa Clara Valley. (Ex. 1A, p. 4.2-29/30.)

To avoid a significant and unavoidable impact due to construction and operation of LECEF, we have included the following mitigation plan in Condition **BIO-11**:

- 6.75 acres of land be preserved on the 55-acre parcel or on the Cilker property (USD property); or
- 20.25 acres be purchased. If land cannot be secured on site or on adjacent parcels, then somewhere in Santa Clara County.¹¹⁵ (Ex. 1A, p. 4.2-30/36-37 & **Table 6**; see Condition **BIO-11**.)

As to other power projects under development or with AFC's near completion near the proposed project, Staff found no overlapping or additive impacts from water pollution, traffic, noise, or lighting. (Ex. 1A, p. 4.2-30.)¹¹⁶

Nitrogen deposition modeling concluded MEC could deposit 0.28 kg/ha-yr. on Coyote Ridge above ambient conditions and that related increase in vehicle traffic on Highway 101 were unlikely to result in deposition. Staff compared the

¹¹⁵USD's EIR noted that replacement habitat for nesting and foraging burrowing owls is not available in northern Santa Clara County except on city-owned lands. The City of San Jose, however, does not permit its lands for mitigation of privately-operated projects and CDFG's request (in response to the Draft EIR) for it to require USD to acquire burrowing owl habitat outside of northern Santa Clara County was not adopted.

¹¹⁶ These projects include the Metcalf Energy Center (99-AFC-3) (MEC), Gilroy Cogeneration Plant (01-AFC-9) (Gilroy), and the Spartan Energy Center (01-AFC-13) (Spartan). The approved MEC will be using recycled water from San Jose, but withdrawal from this source does not directly impact plant or wildlife habitat. The other two proposed projects (Gilroy and Spartan) would not use the same water supply or discharge facility and are geographically isolated from the proposed plant, but would contribute air pollutants to the same air basin. (Ex. 1A, p. 4.2-30, see our **Air Quality** section *supra*.)

impact levels of LECEF with the previous modeling results for MEC and Highway 101.¹¹⁷ LECEF has no physical proximity to serpentine soil areas (the distance between the facility and the nearest USFWS Critical Habitat Unit is six miles) but there are a number of other point sources of nitrogen occurring in the intervening air basin. (Ex. 1A; p. 4.2-31.) See **Table 5**, below.

BIOLOGICAL RESOURCES Table 5
Comparison of Nitrogen Emissions between LECEF,
Metcalf Energy Center, and Highway 101 Vehicles

Parameters	LECEF	Metcalf Energy Center¹	Highway 101 Vehicles^{1, 2}
Maximum Daily Emissions (lb/day)	820.8 (four combustion gas turbines)	1,362.6 (two combustion gas turbines with duct burners)	706.5
Annual Emissions (tons per year)	74.9 (for four turbines) to 79.6 (for facility)	185.0	117.2
Maximum Annual Emissions from Emergency Generator (tons per year)	0.09 (natural gas, 100 hours of operation per year)	0.2 (natural gas fired)	Not Applicable
Maximum Annual Emissions from Fire Pump (tons per year)	0.37 (diesel, 100 hours of operation per year)	0.4 (diesel)	Not Applicable
Maximum Modeled Nitrogen Deposition at Coyote Ridge/Kirby Critical Habitat Unit (kg/ha-yr.)	0.0392	0.28	Deposition expected to remain on valley floor

¹ Data from MEC's Informal Data Requests and Responses (99-AFC-3), dated April 28, 2000 and the Section 8.1 of the Metcalf Energy Center's AFC

² For highway travel along Highway 101 between Metcalf Canyon and South Coyote (approximately 5 km, directly adjacent to Coyote Ridge) resulting from vehicles to Coyote Valley Urban Reserve and Coyote Valley Research Park (future projects), southeast of MEC

Source: (Ex. 1A, p. 4.2-32.)

¹¹⁷ Identical model and model assumptions were used except that additional polygons were added for the LECEF analysis as a result of the USFWS establishing critical habitat for the bay checkerspot butterfly in April 200. Thus, instead of the approximately 4,000 acres of butterfly habitat used in MEC, LECEF modeling assumed approximately 22,000 acres of butterfly habitat. Where possible, developed lands were removed from the 22,000 acres designated in Santa Clara County (USFWS notes it regulatory oversight extends to only currently undeveloped areas supporting the primary constituent elements of bay checkerspot butterfly habitat). USFWS assumed that unoccupied areas essential to the conservation of the subspecies were included in Staff's model. (Ex. 1A, p. 4.2-32.)

LECEF and MEC are similar in their relatively low elevation and absence of intervening land masses. Modeling concluded that LECEF could result in some level of nitrogen deposition on serpentine soils above ambient conditions, but the level is less than that modeled for MEC.¹¹⁸ Nitrogen deposition impact risks could be reduced if the LECEF could reduce overall nitrogen sources near serpentine habitat. (Ex. 1A, p. 4.2-32.)

Staff asserted that absent mitigation, the effects of nitrogen deposition, when combined with the ambient conditions and the addition of three power facilities could cause significant harm to several state and federally listed species.¹¹⁹ Therefore, we have required Applicant to purchase and manage lands for the benefit of the state and federally listed species thereby reducing any potential adverse impact to a level that is less than significant. (Ex. 1, p. 4.2-33, see Condition **BIO-16**)

COMMISSION DISCUSSION

The Commission is persuaded that Applicant carried its burden in establishing the limited biological value of the project site and linear corridors. The evidence

¹¹⁸ Recent air pollution studies on Coyote Ridge (which includes the Silver Creek and Kirby Critical Habitat Units) on the bay checkerspot will likely find levels adversely affecting serpentine plant communities, with negative effects on the bay checkerspot butterfly. Opler's longhorn moth is even more host specific, and would be harmed by the loss of its host plant. The USFWS is having ongoing consultation with the U.S. USACE, Federal Highway Administration, City of San Jose, and Santa Clara County to address the risk posed by nitrogen deposition. To improve conditions for the butterfly, federal (Section 7) and Habitat Conservation Plan (Section 10) consultations generally result in the applicant purchasing areas to be managed as preserves. Well-managed, moderate grazing must be maintained at the preserve sites that are expected to support the butterfly. In Santa Clara County, no impact to serpentine plants from nitrogen deposition has been identified, but because of their overlap with the bay checkerspot butterfly, preservation of its land could benefit these plant species. (Ex. 1A, p. 4.2-32.)

¹¹⁹ On cross-examination by the Coalition, Applicant confirmed that negotiations are underway to purchase 40 acres of butterfly compensation land. The area would be located in the Kirby Canyon landfill area where a butterfly population is known to exist. (3/11/02 RT 285:15-286-4.)

confirms that the site is substantially altered from its natural condition due to previous development activities. Although LECEF's development will result in the loss of some relatively small acreage for foraging raptors, nearby lands will serve that purpose and are arguably better suited for that purpose. (3/11/02 RT 280:7-281-15.) Accordingly, the Committee is satisfied that as conditioned, LECEF's construction and operation will cause no significant unmitigated impacts to the area's biological resources. (3/11/02 RT 291:6-20.)

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Sensitive plants and animals exist in the project area, as the serpentine soils in Santa Clara County support many state and/or federally listed species as well as species of concern.
2. There are no wetlands or sensitive plant species on LECEF's proposed site.
3. The LECEF site footprint has been cleared of structures and vegetation that could provide wildlife shelter.
4. LECEF's construction will result in the permanent loss of 18 acres of disturbed land suitable for foraging habitat.
5. Construction and operation of the LECEF project, if not adequately mitigated, could create adverse impacts to the sensitive biological resources in the project area.
6. The combined impact of constructing PG&E's Los Esteros Substation, and the USD project at the same time as LECEF would create a significant impact to foraging and nesting habitat for sensitive species.
7. Applicant's compliance with the mitigation measures set forth in the environmental documents for the USD and Los Esteros Substation projects, along with our Conditions will ensure that cumulative impacts are mitigated to less than significant levels.

8. Construction of the stormwater drain to the high flow channel of Coyote Creek does not require permit authorizations from the CDFG or the U.S. Army Corps of Engineers. Applicant has completed the design process for permitting by the Santa Clara Valley Water District.
9. Applicant has submitted an amendment for its the Section 1600 Streambed Alteration Agreement permit determination by the California Department of Fish and Game (CDFG) based upon the high flow channel proposal for the stormwater drain. Applicant will obtain a Streambed Alteration Agreement if required by the CDFG.
10. The mitigation measures contained in the Conditions of Certification set forth below were developed in cooperation and consultation with the United States Fish & Wildlife Service and with the California Department of Fish and Game.
11. The Conditions of Certification assure that the LECEF Project will cause no significant unmitigated adverse impacts to biological resources in the project area.
12. The Conditions of Certification, if properly implemented, ensure that the LECEF Project will comply with applicable LORS, which are set forth in the pertinent portion of Appendix A of this Decision.

We therefore conclude that construction and operation of the LECEF Project will not create any significant direct, indirect, or cumulative adverse impacts to biological resources.

CONDITIONS OF CERTIFICATION

DESIGNATED BIOLOGIST

BIO-1 Site and related facilities (including any access roads, transmission lines, water and gas lines, storage areas, staging areas, pulling sites, substations, wells, etc) mobilization activities shall not begin until an Energy Commission CPM approved Designated Biologist is available to be on-site.

Protocol: The Designated Biologist must meet the following minimum qualifications:

1. Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field;

2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;
3. At least one year of field experience with biological resources found in or near the project area; and
4. An ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation.

If the CPM determines the proposed Designated Biologist to be unacceptable, the project owner shall submit another individual's name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No habitat disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new Designated Biologist is on-site.

Verification: At least 35 days prior to the start of any site and related facilities mobilization activities, the project owner shall submit to the CPM for approval the name, qualifications, address, and telephone number of the individual selected by the project owner as the Designated Biologist. If a Designated Biologist is replaced, the information on the proposed replacement as specified in the Condition must be submitted in writing at least 10 working days prior to the termination or release of the preceding Designated Biologist.

DESIGNATED BIOLOGIST DUTIES

BIO-2 The CPM approved Designated Biologist shall perform the following during any site and related facilities mobilization, construction, and operation activities:

1. Advise the project owner's Construction/Operation Manager, supervising construction and operations engineer on the implementation of the biological resources Conditions of Certification;
2. Supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species; and

3. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification.

Verification: During site and related facilities mobilization and construction, the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.

DESIGNATED BIOLOGIST AUTHORITY

BIO-3 The project owner's Construction/Operation Manager shall act on the advice of the Designated Biologist to ensure conformance with the Biological Resources Conditions of Certification.

Protocol: The project owner's Construction/Operation Manager shall halt, if necessary, all construction or operation activities in areas specifically identified by the Designated Biologist as sensitive to assure that potential significant biological resource impacts are avoided.

The Designated Biologist shall:

1. Inform the project owner and the Construction/Operation Manager when to resume construction or operation, and
2. Advise the Energy Commission CPM if any corrective actions are needed or have to be instituted.

Verification: Within 2 working days of a Designated Biologist notification of non-compliance with a Biological Resources Condition of Certification or a halt of construction or operation, the project owner shall notify the CPM by telephone of the circumstances and actions being taken to resolve the problem or the non-compliance with a condition. For any necessary corrective action taken by the project owner, a determination of success or failure will be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

WORKER ENVIRONMENTAL AWARENESS PROGRAM

BIO-4 The project owner shall develop and implement a CPM approved Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work on the project or related facilities during site mobilization, construction and operation, are informed about sensitive biological resources associated with the project.

Protocol: The Worker Environmental Awareness Program must:

1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material is made available to all participants;
2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas;
3. Present the reasons for protecting these resources;
4. Present the meaning of various temporary and permanent habitat protection measures; and

Identify whom to contact if there are further comments and questions about the material discussed in the program.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement.

Verification: At least 30 days prior to the start of any site and related facilities mobilization, the project owner shall provide two copies of the Worker Environmental Awareness Program and all supporting written materials reviewed or prepared by the Designated Biologist and the name and qualifications of the person(s) administering the program to the CPM for approval. The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. The signed statements for the mobilization and construction phase shall be kept on file by the project owner and made available for examination by the CPM for a period of at least six months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for six months, following the termination of an individual's employment.

STREAMBED ALTERATION AGREEMENT

BIO-5 Prior to start of any site or related facilities mobilization activities of the interior side of the levee, the project owner shall acquire a Streambed Alteration Agreement from the CDFG if required, or show CDFG correspondence that indicates no permit is required. The project owner will implement the agreement terms and conditions.

Protocol: Provisions in the CDFG Streambed Alteration Agreement include (typical measures are):

1. Completion of all work in the streams when the work sites are dry;
2. Not removing or damaging woody perennial stream bank vegetation outside of the work area;
3. Not removing soil, vegetation, and vegetative debris from the streambed or stream banks;
4. Not exceeding the amount of fill placed within stream channels above that which naturally occurred in the stream channel prior to the start of work;
5. Not creating silty or turbid water when water returns to the stream, and not discharging silty water into the stream, nor creating turbid water within the stream;
6. Stabilizing slopes toward the stream to reduce erosion potential;
7. Locating equipment, material, fuel, lubricant and solvent staging and storage areas outside the stream, and using drip pans with motors, pumps, generators, compressors, and welders that are located within or adjacent to a stream;
8. Moving all vehicles away from the stream prior to refueling and lubricating;
9. Preventing any substance that could be hazardous to aquatic life from contaminating the soil and/or entering the waters of the area;
10. Cleaning up all spills immediately; and
11. Returning stream low flow channel, bed, or banks to as nearly as possible to their original configuration and width.

Verification: At least 30 days prior to the start of any site or related facilities mobilization activities on the interior side of the levee the project owner shall submit to the CPM a copy of the final CDFG Streambed Alteration Agreement or applicable CDFG correspondence. Agreement terms and conditions will be incorporated into the BRMIMP.

REGIONAL WATER QUALITY CONTROL BOARD CERTIFICATION

BIO-6 The project owner will acquire and implement the terms and conditions of the Regional Water Quality Control Board Section 401 State Clean Water Act certification, if required.

Verification: No less than 30 days prior to the start of any site or related facilities mobilization activities on the interior side of the levee, the project owner will provide the CPM with a copy of the final Regional Water Quality Control

Board (RWQCB) certification. The terms and conditions of the certification will be incorporated into the project's BRMIMP.

U. S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT

BIO-7 The project owner shall provide a final copy of the Section 404 permit, if required. The project owner will implement the terms and conditions contained in the permit.

Verification: No less than 30 days prior to the start of any site and related facilities mobilization of the interior side of the levee, the project owner shall submit to the CPM a copy of the permit required to fill on-site wetlands. Permit terms and conditions will be incorporated into the BRMIMP.

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN

BIO-8 The project owner shall submit to the CPM for review and approval a copy of the final BRMIMP and shall implement the measures identified in the plan. Any changes to the adopted BRMIMP must be made by the Energy Commission staff, in consultation with the USFWS and CDFG.

Protocol: The final BRMIMP shall identify:

1. All biological resources mitigation, monitoring, and compliance measures recommended by the Applicant, as well as those contained in the BIO-Condition of Certification (and other mitigation requirements);
2. All provisions specified in a CDFG Streambed Alteration Agreement;
3. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
4. All required mitigation measures for each sensitive biological resource;
5. Required habitat compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;
6. A detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities;
7. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;

8. Aerial photographs of all areas to be disturbed during project construction activities - one set prior to any site mobilization disturbance and one set after completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;
9. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
10. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
11. All performance standards and remedial measures to be implemented if performance standards are not met;
12. A discussion of biological resources related facility closure measures;
13. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and
14. A detailed plan of the management of top soil (from onsite, laydown, and linear areas) during the construction phase.

Verification: At least 30 days prior to start of any site or related facility mobilization activities, the project owner shall provide the CPM with 2 copies of the draft final version of the BRMIMP for this project, and provide copies to the USFWS and CDFG. The CPM, in consultation with the USFWS and CDFG, will determine the plan's acceptability within 15 days of receipt. The project owner shall notify the CPM no less than 5 working days before implementing any modifications to the BRMIMP to obtain CPM approval.

Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which mitigation and monitoring plan items are still outstanding.

CLOSURE PLAN MEASURES

BIO-9 The project owner will incorporate into the planned permanent or unexpected permanent closure plan measures that address the local biological resources.

Protocol: The planned permanent or unexpected permanent closure plan will address the following biological resources related mitigation measures (typical measures are):

1. Removal of transmission conductors when they are no longer used or useful;
2. Removal of all power plant site facilities and related facilities;
3. Measures to restore wildlife habitat to promote the re-establishment of native plant and wildlife species; and,
4. Revegetation of the plant site and other disturbed areas utilizing appropriate seed mixture.

Verification: At least 12 months (or a mutually agreed upon time) prior to the commencement of closure activities, the project owner shall address all biological resources related issues associated with facility closure in a Biological Resources Element. The Biological Resources Element will be incorporated into the Facility Closure Plan and include a complete discussion of the local biological resources and proposed facility closure mitigation measures. The biological resources facility closure measures will also be incorporated into the BRMIMP.

MITIGATION MEASURES

BIO-10 The project owner will implement the mitigation measures identified below unless the mitigation measures conflict with mitigation required by the USFWS Biological Opinion.

Protocol: The project owner will:

1. Site transmission line poles, access roads, pulling sites, and storage and parking areas to avoid sensitive resources whenever possible;
2. Avoid all wetlands;
3. Design and construct transmission lines and poles to reduce the likelihood of electrocutions of large birds;
4. Implement the terms and conditions of a current CDFG Streambed Alteration Agreement (if required);
5. Implement a Worker Environmental Awareness Program;
6. Clearly mark construction area boundaries with stakes, flagging, and/or rope or cord to minimize inadvertent degradation or loss of adjacent habitat during facility construction/modernization. All equipment storage will be restricted to designated construction zones or areas that are currently not considered sensitive species habitat. Parking will not be allowed below the canopy of trees;

7. Provide a Designated Biologist to monitor all activities that may result in incidental take of listed species or their habitat;
8. Fence and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches. Fence will be hardware cloth or similar materials that are approved by the USFWS and CDFG;
9. Inspect trenches every 6 hours for entrapped animals prior to the beginning of construction in an area that has been unattended for over 3 hours during the night. Inspections will be made by someone specially trained by the Designated Biologist in the proper handling of wildlife. Construction will be allowed to begin only after trapped animals are able to escape voluntarily or in a safe and humane manner.
10. Inspect all construction pipes, culverts, or similar structures with diameter of 4-inches or greater for sensitive species (such as foxes) prior to pipe burial. Pipes to be left in trenches for more than eight 8 hours will be capped.
11. Provide a post-construction compliance report, within 45 calendar days of completion of the project, to the Energy Commission CPM;
12. Make certain that all food-related trash will be disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited;
13. Report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals will be reported to the CDFG, and the project owner will follow instructions that are provided by the CDFG;
14. Limit the use of biocides in project areas (see **BIO-17** for more detail); and
15. Implement erosion control in the temporary impact areas, especially near wetlands and waterways;
16. Any fixed lighting used during construction activities must be designed to be directed downward and away from riparian areas;
17. No construction activity shall be allowed within 500 feet of the levee wall from one (1) hour before sunset until one (1) hour after sunrise (as defined by a California solar timetable); and

18. Contact the San Francisco Bird Observatory (Sherry Hudson at 408-946-6548 or shudson@sfbbo.org) two weeks prior to beginning construction of the stormwater outfall at the levee wall to arrange alternative access to the Observatory's long-term bird banding site.

Verification: All mitigation measures and their implementation methods will be included in the BRMIMP. Two copies of the CPM approved BRMIMP must be provided to the CPM five days prior to site mobilization and copies provided to the USFWS and CDFG.

SURVEY AND PROVIDE HABITAT COMPENSATION FOR BURROWING OWLS

BIO-11 The applicant shall survey for burrowing owl activities on the 55-acre parcel and along all ancillary linears 20 days prior to site mobilization to assess owl presence and need for further mitigation. All survey results shall be submitted to the CDFG. If owls are present, and nesting is not occurring, owls are to be removed per CDFG-approved passive relocation. Passive relocation is recommended from September 1 to January 31, to avoid disruption of breeding activities. If owls are nesting, nest(s) should be avoided by a minimum of a 250-foot buffer until fledging has occurred (February 1 through August 31). Following fledging, owls may be passively relocated.

If burrowing owls are found on the site or along all ancillary linears, on-site or off-site compensation for losses will be required, whichever is feasible. CDFG recommends 6.5 acres of protected lands for each pair of owls or unpaired resident bird. Foraging habitat should be replaced at 0.5:1 (mitigation:impacts). Mitigation lands bought outside of Santa Clara County shall be purchased at a 0.75:1 (mitigation: impacts) for contiguous counties and 1.5:1 for all other California counties. In addition, existing unsuitable burrows on the protected lands should be enhanced (e.g., cleared of debris or enlarged) or new burrows installed at a ratio of 2:1. If off-site compensation is the only option, the mitigation ratios will increase depending on the distance from the site and burrowing presence on or near the mitigation parcel.

Verification: At least 15 days prior to the expected start of any project-related ground disturbance activities, the project owner shall provide the CPM and CDFG with the burrowing owl survey results and identify any lands proposed for mitigation (if applicable). The land purchase shall be approved by the CPM and reviewed by CDFG. The project owner shall notify the CPM five working days before implementing any modifications to the BRMIMP.

REPLACEMENT OF ORDINANCE AND NATIVE MATURE TREES

BIO-12 Prior to the start of any site mobilization, the project owner shall develop the Ordinance and Native Mature Tree Replacement Plan for inclusion into the BRMIMP. The protocol shall include a thorough discussion of methods, species, and location for plantings, criteria for success, a

monitoring program for 5 years, and a reporting requirement. If the CPM determines that the plan requires modification, the project owner shall modify the report based on the CPM's comments.

Verification: At least 30 day prior to the start of any site and related facilities mobilization, the project owner shall provide to the CPM for review and approval, and to CDFG for review, a Ordinance and Native Mature Tree Replacement Plan as part of the BRMIMP.

CITY OF SAN JOSE ORDINANCE TREE

BIO-13 The project owner will acquire a City of San Jose permit to remove any remaining ordinance trees from the site. The number of trees removed will be minimized and construction equipment and linears in the dripline of these trees will be avoided. The applicant will be required to replace any trees removed at a ratio of 4:1 (mitigation: impact) per the U.S. DataPort EIR.

Verification: The terms and conditions of the City of San Jose permit(s) will be incorporated into the project's BRMIMP and submitted at least 90 days prior to removal of any remaining ordinance trees (or those not covered by the City of San Jose Planned Development Permit). A copy of the permit(s) should be included as an appendix to the BRMIMP.

REVEGETATION OF TEMPORARY DISTURBANCE

BIO-14 After construction, the laydown area will be stripped of any armoring material, the surface scarified, and topsoil restored. Barley seed will be sowed as a temporary cover crop, but native seeds from the topsoil will be allowed to sprout and grow.

Verification: The applicant shall provide the revegetation plan in the BRMIMP and submit it within 60 days after the start of any site and related facilities mobilization.

AVOID IMPACTS TO RIPARIAN COMMUNITIES

BIO-15 Construction of the permanent outfall to Coyote Creek shall be scheduled to avoid critical seasons. Surveys by a qualified biologist will be conducted prior to any construction activities on the interior side of the levee to locate nests and other resources in/or adjacent to the stormwater right-of-way. Designated existing roads will be used, and if such roads are not present, flagged routes that have been surveyed by a biologist will be used. If nests are observed, an avoidance period and buffer area shall be followed by all construction personnel. Construction plans will be submitted with a photo alignment sheet to the Energy Commission CPM for approval and to CDFG for review.

Verification: The applicant shall provide this measure as an amendment to the BRMIMP and as part of the roles for the Designated Biologist. Submittals of construction plans must occur 30 days prior to site mobilization on the interior side of the levee wall, but does not preclude the start of construction on the

facility site. In lieu of CDFG review, the applicant may submit a copy of their final Streambed Alteration Agreement permit.

HABITAT COMPENSATION FOR SERPENTINE ENDEMIC

BIO-16 To compensate for impacts to serpentine soils and associated endemic species, the project owner shall provide a minimum of 40-acres of land within a high priority (as defined by USFWS) or occupied USFWS Critical Habitat Unit, the name of the entity that will be managing the land in perpetuity, and the endowment funds in the amount determined suitable from the Center for Natural Lands PAR analysis to administer and manage in perpetuity. Each of these must have been pre-approved by Energy Commission staff and USFWS.

Verification: Within one month of project certification, the project owner must provide to the CPM for approval, the name of the management entity, written verification that the compensation lands have been purchased and written verification that the appropriate endowment fund (determined by the PAR analysis) has been received by the approved management entity.

LANDSCAPING PLAN

BIO-17 The applicant will complete a Landscaping Plan for review by the CPM.

Protocol: The Landscaping Plan must include measures which:

1. Direct landscaping lights away from the riparian area;
2. Limit the amounts of biocides used on the project site;
3. Remove invasive, non-native plants (e.g., yellow star thistle) whenever possible to avoid the spread of weeds to the riparian corridor buffer zone. Employ the most effective aspects of the following control methods: 1) manual removal and, 2) mechanical control through soil disturbance. If the previous two methods are unsuccessful in controlling the problem, the following method could be used: 3) herbicides with low environmental persistence, applied from ground-based equipment. These products should only be used within the parameters presented on the label;
4. Avoid plant species that are not already found within the Coyote Creek watershed to avoid potentially new hybrids from cross-pollination;
5. Select a drought-tolerant mix of native species for ground cover;
6. Select a drought-tolerant mix of native tree species to the extent possible, particularly along the eastern edges of the landscaped areas (facing Coyote Creek);

7. Avoid long-term irrigation and limit short-term irrigation;
8. Avoid landscaping species/design(s) which would require initial and/or future maintenance equipment that contribute to noise and/or air pollution; and
9. Avoid the use of non-native ground cover (e.g., bark, rocks, soils).

Verification: At least 45 days prior to LECEF landscape installation, a Landscaping Plan will be sent to the CPM. All mitigation measures and their implementation methods will be included in the BRMIMP. Two copies of the BRMIMP must be provided to the CPM and one copy each provided to both the USFWS and CDFG five days prior to landscape installation.

B. CULTURAL RESOURCES

This section discusses cultural resources, defined as including the structural and cultural evidence of the history of human development and life on earth. These resources assist in the understanding of our culture, our history, and our heritage. Information that can be used to determine the sequence of past human occupation and use of an area is provided by the:

- spatial relationships between an undisturbed resource site and the surface environmental resources and features, and
- an analysis of the locational context of the resource materials within the site and beneath the surface.

The term cultural resources refers generally to those resources, which are typically placed in one of three categories: (1) prehistoric archaeological resources; (2) historic archaeological resources; and (3) ethnographic resources.

The first category refers to those resources relating to the prehistoric human occupation and use of an area; they typically include sites, deposits, structures, artifacts, rock art, trails, and other traces of prehistoric human behavior. Historic archaeological resources are those materials usually associated with non-Native-American exploration and settlement of an area, and correlates with the beginning of a written historical record. Such resources include deposits, sites, structures, traveled ways, artifacts, documents, or other indicia of human activity. Ethnographic resources are those materials important to the heritage of a particular ethnic or cultural group such as Native Americans, or African, European, or Asian immigrants. These materials include:

- traditional collecting areas,
- ceremonial sites,
- topographic features,
- cemeteries,
- shrines, or

- ethnic neighborhoods and structures.

SUMMARY OF THE EVIDENCE

The LECEF project footprint, including all linears, construction laydown areas, and access routes, is located within the Alviso area of the City of San Jose, California.¹²⁰ The site is surrounded by Coyote Creek to the east, SR 237 to the south, and a Water Pollution Control Plant (WPCP) and buffer lands to the west and north. The potential to discover buried archaeological deposits throughout the adjacent floodplain of Coyote Creek is very high.¹²¹ (Ex. 1, p. 4.3-5.)

Ethnographically, the project site is located within the Tamyen territory of the Costanoan, or Ohlone. Based on Spanish mission records and archaeological data, researchers estimated the Tamyen to be about 1,000 to 2,000 individuals in 1770. Within the Tamyen territory the population was further sub-divided into Tribelet territories, which were defined by physiographic features and usually had one or more permanent villages surrounded by a number of temporary camps. The Costanoan aboriginal lifeway apparently disappeared by 1810 due to its disruption by new diseases, a declining birth rate, and the impact of the mission system, during which the Costanoan were transformed from a hunter-gatherer society into agricultural laborers, until mission secularization. (Ex. 1, p. 4.3-5.)

¹²⁰ The footprint for the proposed project is within the larger footprint of the proposed US Dataport (USD) facility. (Ex. 1, p. 4.13-5.)

¹²¹ The area in prehistoric times was floodplain grassland, perhaps characterized by scattered oak, sycamore, and willow trees, especially along the Coyote Creek corridor. Watercourses were favored locations for pre-historic occupation in the Santa Clara Valley. From such spots, Native Americans could exploit a variety of ecological niches on the alluvial plain, the nearby foothills, and the productive marshes of Southern San Francisco Bay. Over time, however, pre-historic settlements were forced to relocate in response to flooding and changes in the course of the river. (Ex. 1, p. 4.3-5.)

The Port of Alviso was founded in the late 1840's and is not only one of the oldest ports on the West Coast, but was one of the first cities to be incorporated into California after it became a state.¹²² (Ex. 1, p. 4.13-5.)

In 1876 an early farmer-settler named William Boots owned over 650 acres in the area, including the easternmost portion of the proposed USD/LECEF project site. His residence was located off the site, just south of State Route 237. However, a former structure of this era was, at one time, located on the site. Thus, buried historical remains such as privies, trash dumps, and wells associated with this structure could potentially exist on site. (Ex. 1, p. 4.3-5.)

Currently, the site is comprised of the remnants of a large Chinese flower-growing complex, the Cilker Orchards, and the remaining Cilker residence.¹²³ In total there are three unoccupied residences located within the USD project site. They include (1) the Cilker residence, built in 1923, at 1657 Alviso-Milpitas Road (2) 1591 Alviso-Milpitas Road, built in the 1940's which is located in the Cilker Orchard warehouse complex, and (3) 1515A Alviso-Milpitas Road, built in the 1940's, located in the southwestern corner of the project site.¹²⁴

1. Impacts

Comprehensive surveys of the proposed project site and the U.S. Dataport (USD) site revealed no significant prehistoric or historic archaeological remains, and no historically or architecturally significant buildings or structures. Excavations of 40 test trenches revealed no indications of prehistoric or historic

¹²²Visit [<http://www.cachis.com/alviso/historicalnotes.html>] for a historical background of the City and Port of Alviso.

¹²³ The flower growing complex was built in the 1970's, and the Cilker Orchards are now barren, with only a warehouse complex remaining. (Ex. 1, p. 4.3-5.)

¹²⁴The unoccupied residence at 1515A has been recently demolished along with structures left over from the flower-growing complex. (Ex. 1, p. 4.13-6.)

cultural materials. (Ex. 3F, p. 6.) However, Staff concluded that because remains have been recorded in areas adjacent to the proposed project site, the potential to discover previously unrecorded archaeological remains during construction is high. (Ex. 1, p. 4.3-9.)

Staff's segmented findings (one each for the USD and the LECEF projects) are consistent with those of Applicant as summarized in the following Tables:

CULTURAL RESOURCES, Table 1
U.S. Dataport Project Area

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

(Ex. 1, p. 4.3-6.)

CULTURAL RESOURCES, Table 2
Los Esteros Critical Energy Facility Project Area (LECEF)

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

(Ex. 1, p. 4.3-8.)

2. Cumulative Impacts

The USD/LECEF project site is located in an area where a wealth of archaeological review has discovered highly sensitive buried prehistoric and historic archaeological remains. Due to the rapid encroachment of commercial and residential development occurring in the San Jose area resulting in the loss of open space and research potential, there is a strong possibility that the LECEF will yield archaeological information important to San Jose history. Nevertheless, with the proper implementation of the proposed mitigation measures, and Conditions of Certification, any cumulative impacts to known and previously unknown archaeological resources and the loss of knowledge that comes with the destruction of those resources, will be reduced to less than significant. (Ex. 1, p. 4.3-9; see **Cul-1–11.**)

3. Mitigation

In its recommended mitigation plan, Staff incorporated measures identified in the USD Draft EIR (2000) that would avoid or reduce the impact to cultural resources. Condition CUL-3 requires these measures to be included in the Cultural Resource Monitoring Mitigation Plan (CRMMP), which must be approved prior to any ground disturbance associated with the LECEF taking place, and include:

- Prior to any ground disturbance, a subsurface mechanical testing program for archaeological materials will be conducted over the entire site. Subsurface testing will look for buried or obscured prehistoric deposits. Backhoe trenches will be excavated systematically at 30-meter intervals, and samples of excavated soils will be regularly screened. Soil logs and/or stratigraphic profiles for each trench will be maintained.
- In the event of the discovery of any archaeological remains, either during preconstruction testing, or during construction, all construction within 50-feet of the find will be halted, the Compliance Project Manager and Director of Planning, Building and Code Enforcement will be notified, and

the archaeologist will examine the find and make appropriate recommendations regarding the significance of the find and appropriate mitigation. Recommendations may include collection, recordation, and analysis. (Ex. 1, p. 4.3-9.)

Staff concluded that the best mitigation strategy is to avoid impact to cultural resources that may be located in the project area. (Ex. 1, p. 4.3-9.) Condition CUL-3 requires implementation of avoidance measures, which would also be included in the CRMMP. If cultural resources are encountered during construction activities, the totality of mitigation measures contained in the Conditions of Certification will ensure that the resources are protected. In addition, our conditions require the project owner to designate a qualified cultural resource professional to be responsible for implementing the CRMMP. (See Condition **CUL-1**.)

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Cultural resources exist in the general project area.
2. Construction activities associated with the proposed project and its related facilities present the most likely potential for adverse impacts to cultural resources.
3. The evidence establishes the likelihood that significant historical resources are present surrounding areas that may be disturbed by project construction.
4. Construction-related disturbance to historical resources would likely have a significant impact if not mitigated.
5. Adverse impacts may be satisfactorily mitigated by implementation of appropriate mitigation measures.
6. The Conditions of Certification listed below contain measures that will ensure that construction of the proposed project and its related facilities will not create significant direct, indirect, or cumulative adverse impacts to cultural resources.

7. Implementation of the Conditions of Certification below will assure that the proposed project will comply with all applicable LORS pertaining to Cultural Resources set forth in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the proposed project will not create any significant direct, indirect, or cumulative adverse impacts to cultural resources.

CONDITIONS OF CERTIFICATION

- CUL-1** Prior to the start of ground disturbance, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with the name and resume of its Cultural Resources Specialist (CRS), and one alternate CRS, if an alternate is proposed, who will be responsible for implementation of all cultural resources conditions of certification.

Protocol: 1. The resume for the CRS and alternate, if an alternate is proposed, shall include information that demonstrates that the CRS meets the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61.

The technical specialty of the CRS shall be appropriate to the needs of this project and shall include a background in anthropology, archaeology, history, architectural history or a related field.

The background of the CRS shall include at least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California;

The resume shall include the names and phone numbers of contacts familiar with the CRS's work on referenced projects.

2. The resume shall also demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during project ground disturbance, construction and operation.
3. The CRS may obtain qualified cultural resource monitors to monitor as necessary on the project. Cultural resource monitors shall meet the following qualifications.

- A BS or BA degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or
 - An AS or AA in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or
 - Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology or a related field and two years of monitoring experience in California.
4. The project owner shall ensure that the CRS completes any monitoring, mitigation and curation activities necessary to this project and fulfills all the requirements of these conditions of certification. The project owner shall also ensure that the CRS obtains additional technical specialists, or additional monitors, if needed, for this project. The project owner shall also ensure that the CRS evaluates any cultural resources that are newly discovered or that may be effected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR).

Verification:

1. At least 45 days prior to the start of ground disturbance, the project owner shall submit the name and statement of qualifications of its CRS and alternate CRS, if an alternate is proposed, to the CPM for review and approval.

2. If the CPM determines the proposed CRS to be unacceptable, the project owner shall submit another individual's name and resume for consideration. If the CPM determines the proposed alternate to be unacceptable, the project owner may submit another individual's name and resume for consideration. At least 10 days prior to the termination or release of the CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval.

3. At least 20 days prior to ground disturbance, the CRS shall provide a letter naming anticipated monitors for the project and stating that the identified monitors meet the minimum qualifications for cultural resource monitoring required by this condition. If additional monitors are obtained during the project, the CRS shall provide additional letters to the CPM, identifying the monitor and attesting to the monitor's qualifications. The letter shall be provided one week prior to the monitor beginning on-site duties.

4. At least 10 days, prior to the start of ground disturbance, the project owner shall confirm in writing to the CPM that the approved CRS will be available

for onsite work and is prepared to implement the cultural resources conditions of certification.

- CUL-2**
1. Prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps will include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting individual artifacts. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide them with copies to the CPM. If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes, to the CRS and the CPM. Maps shall identify all areas of the project where ground disturbance is anticipated.
 2. If construction of this project will proceed in phases, maps and drawings may be submitted in phases. A letter identifying the proposed schedule of each project phase shall be provided to the CPM.
 3. Prior to implementation of additional phases of the project, current maps and drawings shall be submitted to the CPM.
 4. At a minimum, the CRS shall consult weekly with the project superintendent or construction field manager to confirm area(s) to be worked during the next week, until ground disturbance is completed. A current schedule of anticipated project activity shall be provide to the CRS on a weekly basis during ground disturbance and provided to the CPM in each Monthly Compliance Report (MCR).

Verification:

1. At least forty days prior to the start of ground disturbance, the project owner shall provide the designated cultural resources specialist and the CPM with the maps and drawings.
2. If this is to be a phased project, a letter identifying the proposed schedule of the ground disturbance or construction phases of the project shall also be submitted.
3. At least 30 days prior to the start of ground disturbance on each phase of the project, following initial ground disturbance, copies of maps and drawings reflecting additional phases of the project, shall be provided to the CPM for review and approval.

4. If there are changes to the scheduling of the construction phases of the project, a letter shall be submitted to the CPM within 5 days of identifying the changes.
5. A copy of the current schedule of anticipated project activity.

CUL- 3 Prior to the start of project construction-related vegetation clearance or earth disturbing activities or project site preparation; the designated cultural resources specialist shall prepare, and the project owner shall submit to the CPM for review and written approval a Cultural Resources Monitoring and Mitigation Plan (CRMMP) identifying general and specific measures to minimize potential impacts to sensitive cultural resources.

The CRMMP shall be submitted to the CPM for review, and must approve the plan in writing, prior to any construction-related vegetation clearance or earth disturbing activities or project site preparation. After CPM approval of the plan, the project owner shall make the designated cultural resource specialist and designated cultural resource team available to implement the CRMMP as needed throughout project construction.

Protocol: The Cultural Resources Monitoring and Mitigation Plan shall include, but not be limited to, the following elements and measures:

1. A proposed research design that includes a discussion of questions that may be answered by the mapping, data and artifact recovery conducted during monitoring and mitigation activities, and by the post-construction analysis of recovered data and materials.
2. Discussion of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the pre-construction, construction, and post-construction analysis phases of the project.
3. Identification of the person(s) expected to perform each of the tasks; a description of each team member's qualifications and their responsibilities; and the reporting relationships between project construction management and the mitigation and monitoring team.
4. A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities.
5. Incorporation of the cultural resources mitigation measures, as mandated by the City of San Jose's USD Draft EIR (2000).

6. A discussion of any measures such as flagging or fencing, to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and operation, and identification of areas where these measures are to be implemented. The discussion shall address how these measures will be implemented prior to the start of construction and how long they will be needed to protect the resources from project-related effects.
7. A discussion of the requirement that all cultural resources encountered will be recorded and mapped (may include photos) and that all significant or diagnostic resources will be collected for analysis and eventual curation into a retrievable storage collection in a public repository or museum that meets the U.S. Secretary of Interior standards requirements for the curation of cultural resources.
8. A description of the set of reporting procedures prepared in concert with the project owner, to be used by all project personnel to notify the designated cultural resource specialist of any unexpected cultural resource discoveries during project construction.
9. A description of the work curtailment procedures prepared in concert with the project owner, to be used by all project personnel in the event of unexpected cultural resource discoveries during project construction.
10. A discussion of the availability and the designated specialist's access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during construction.

Verification: At least 30 days prior to the start of project construction related vegetation clearance or earth disturbing activities or project site preparation, the project owner shall provide the Cultural Resources Monitoring and Mitigation Plan, prepared by the designated cultural resource specialist, to the CPM for review and written approval.

CUL-4 Worker Environmental Awareness Training for all new employees shall be conducted prior to and during periods of ground disturbance. New employees shall receive training prior to starting work at the project site or linears. The training may be presented in the form of a video. The training shall include a discussion of applicable laws and penalties under the law. Training shall also include samples or visuals of artifacts that might be found in the project vicinity. The training should inform workers that the CRS, alternate CRS or monitor has the authority to halt construction in

the event of a discovery or unanticipated impact to a cultural resource. The training shall also instruct employees to halt or redirect work in the vicinity of a find and to contact their supervisor and the CRS or monitor. An informational brochure shall be provided that identifies reporting procedures in the event of a discovery. Workers shall sign an acknowledgement form that they have received training and a sticker shall be placed on hard hats indicating that environmental training has been completed.

Verification: At least 30 days prior to ground disturbance, the project owner shall provide a letter to the CPM stating that employees will not begin work until they have completed environmental training and that a sticker on hard hats will identify workers who have received training. Copies of acknowledgement forms signed by trainees shall be provided in the MCR.

- CUL-5**
1. The CRS, alternate CRS, or monitors shall monitor ground disturbance full time in the vicinity of the project site, linears and ground disturbance at laydown areas to ensure there are no impacts to undiscovered resources. In the event that the CRS determines that full-time monitoring is not necessary in certain locations, a letter providing a detailed justification for that decision to reduce the level of monitoring shall be provided to the CPM for review and approval.
 2. Those individuals conducting cultural resources monitoring shall keep a daily log describing the construction activities, areas monitored, soils observed, and any cultural materials observed. The CRS may informally discuss cultural resource monitoring and mitigation activities with Energy Commission technical staff.
 3. The CRS shall notify the project owner and the CPM, by telephone, of any incidents of non-compliance with any cultural resources conditions of certification within 24hrs. of becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the conditions of certification.
 4. A Native American monitor shall be obtained to monitor activities if a Native American archeological site is discovered. Informational lists of concerned Native Americans and Guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that will be monitored.

Verification:

1. During the ground disturbance phases of the project, if the CRS wishes to reduce the level of monitoring occurring at the project, a letter identifying the area(s) where the CRS recommends the reduction and justifying the reductions in monitoring shall be submitted to the CPM for review and approval.
2. During the ground disturbance phases of the project, the project owner shall include in the MCR to the CPM copies of the daily cultural resource monitoring reports. Copies of daily logs shall be retained.
3. Within 24 hours of recognition of a non-compliance issue, the CRS shall notify the CPM by telephone of the problem and of steps being taken to resolve the problem. The telephone call shall be followed by an e-mail or fax detailing the non-compliance issue and the measures necessary to achieve resolution of the issue. Daily logs shall include forms detailing any instances of non-compliance with conditions of certification. In the event of a non-compliance issue, a report written no sooner than two weeks after resolution of the issue that describes the issue, resolution of the issue and the effectiveness of the resolution measures, shall be provided in the next MCR.
4. When a Native American archeological site is discovered, the project owner shall send notification to the CPM identifying the person(s) retained to conduct Native American monitoring. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM who will initiate a resolution process.

CUL-6 The designated cultural resource specialist or the specialist's delegated monitor(s) shall have the authority to halt or redirect construction if previously unknown cultural resource sites or materials are encountered during project construction related vegetation clearance or earth disturbing activities or project site preparation or if known cultural resources will be affected in an unanticipated manner.

If any cultural resources are encountered, the project owner shall notify the CPM within 24 hours. Construction will not resume at the discovery site until all of the following have occurred:

1. The specialist has notified the CPM of the find and the work stoppage;
2. The specialist, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and;

3. Any needed data recovery and mitigation has been completed.

The specialist, the project owner, and the CPM shall confer within five working days of the notification of the CPM to determine what, if any, data recovery or other mitigation is needed.

If data recovery or other mitigation measures are required, the specialist and team members shall monitor construction activities and implement data recovery and mitigation measures as needed.

All required data recovery and mitigation shall be completed expeditiously unless all parties agree to additional time.

Verification: At least 30 days prior to the start of project construction-related vegetation clearance or earth disturbing activities and site preparation; the project owner shall provide the CPM with a letter confirming that the designated cultural resources specialist and delegated monitor(s) have the authority to halt construction activities in the vicinity of a cultural resource find. The project owner shall also provide to the CPM, for review and written approval, a set of work curtailment procedures to be followed in the event that previously unknown cultural resources are discovered during construction.

CUL-7 Prior to the start of project construction related vegetation clearance or earth disturbing activities or project site preparation, the project owner shall implement the archeological testing program. If resources are found, the applicant will notify the CPM in accordance with **CUL-6**. A complete DPR 523 form will be prepared. All testing and data recovery will be completed prior to the start of construction related ground disturbance.

Verification: At least 7 days prior to implementing the testing program, the project owner shall provide the CPM with letter indicating the schedule of the proposed testing, including maps showing where test trenches will be placed.

CUL-8 The project owner shall ensure that the designated cultural resource specialist performs the testing, recovery, preparation for analysis, analysis, preparation for curation, and delivery for curation of all cultural resource materials encountered and collected during pre-construction surveys, testing and during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: If archeological materials are found, the project owner shall maintain in its compliance files, copies of signed contracts or agreements with the museum(s), university(ies), or other appropriate research specialists.

The project owner shall maintain these files for the life of the project and the files shall be kept available for periodic audit by the CPM. Information as to the specific location of sensitive cultural resource site shall be kept confidential and accessible only to qualified cultural resource specialists.

CUL-9 After completion of the project, the project owner shall ensure that the CRS prepares a Cultural Resources Report (CRR) according to the Archaeological Resource Management Reports (ARMR) Guidelines as recommended by the California Office of Historic Preservation. The project owner shall submit the report to the CPM for review and approval. The report shall be considered final upon approval by the CPM.

Protocol: The CRR shall include (but not be limited to) the following:

A. For all projects:

1. Description of pre-project literature search, surveys, and any testing activities;
2. Maps showing areas surveyed or tested;
3. Description of any monitoring activities;
4. Maps of any areas monitored; and
5. Conclusions and recommendations.

B. For projects in which cultural resources were encountered, include the items specified under “a” and also provide:

1. Site and isolated artifact records and maps;
2. Description of testing for, and determinations of, significance and potential eligibility; and
3. Research questions answered or raised by the data from the project.

C. For projects regarding which cultural resources were recovered, include the items specified under “a” and “b” and also provide:

1. Descriptions (including drawings and/or photos) of recovered cultural materials;

2. Results and findings of any special analyses conducted on recovered cultural resource materials;
3. An inventory list of recovered cultural resource materials; and
4. The name and location of the public repository receiving the recovered cultural resources for curation.

Verification: After completion of the project, the project owner shall ensure that the CRS completes the CRR within ninety days following completion of the analysis of the recovered cultural materials. Within seven days after completion of the report, the project owner shall submit the CRR to the CPM for review and approval. Within 30 days after receiving approval of the CRR, the project owner shall provide to the CPM documentation that the report has been sent to the SHPO and the appropriate archaeological information center(s).

CUL-10 If significant cultural resource deposits are encountered through testing or project monitoring, the project owner shall ensure that all cultural resource materials, maps, and data collected during data recovery and mitigation for the project are delivered to a public repository that meets the US Secretary of Interior requirements for the curation of cultural resources following the filing of the CPM-approved CRR with the appropriate entities. The project owner shall pay any fees for curation required by the repository.

Verification: The project owner shall ensure that all significant recovered cultural resource materials and a copy of the CRR are delivered for curation. Significance will be determined after consultation with the CPM. The project owner shall provide a copy of the transmittal letter received from the curation facility and provide a copy to the CPM within thirty days after receipt.

For the life of the project, the project owner shall maintain in its compliance files copies of signed contracts or agreements with the public repository to which the project owner has delivered for curation all cultural resource materials collected during testing, data recovery and mitigation for the project.

CUL-11 Prior to any additional project related activities which may result in ground disturbance, the project owner must ensure that the area(s) to be impacted have been subject to a cultural resource surveys for this project, if current (within 5 years) surveys for those areas do not already exist.

The responsibility for the evaluation must be taken by persons meeting the Secretary of the Interior's Professional Qualification

Standards in a discipline appropriate to the historic context within which the resource is being considered (OHP 1995).

If significant cultural resources will be affected, then mitigation measures will be determined in consultation with the CPM.

Verification: The project owner shall provide the results of any additional cultural resource surveys and evaluations in the form of a technical report (with request for confidentiality if needed), along with any associated maps, to the CPM at least thirty 30 before any project related construction is to take place. All required mitigation will be completed prior to construction of the project related activities.

C. GEOLOGY AND PALEONTOLOGY

This section addresses potential impacts on geological hazards, geological and paleontological resources, and surface water hydrology. Paleontological resources include the fossilized remains or trace evidence of prehistoric plants or animals, which are preserved in soil or rock. These fossils are scientifically important because they help document the evolution of particular groups of organisms and the environment in which they lived.

The purpose of the geological and paleontological analysis is to verify that: applicable laws, ordinances, regulations, and standards (LORS) have been identified, and the project can be designed and constructed in accordance with all applicable LORS in a manner that protects environmental quality and assures public health and safety.

SUMMARY OF THE EVIDENCE

The LECEF site is located within the City of San Jose, at the northern end of the Santa Clara Valley, at the south end of the San Francisco Bay. The Santa Cruz Mountains to the west and the Coast Ranges to the east border the valley. The proposed facility site is flat and is underlain by thick alluvial sediments. The site has historically been affected by regional seismicity. Liquefaction is also a potential hazard that may affect the site. (Ex. 3G, p. 9.)

Liquefaction is a nearly complete loss of soil shear strength that can occur during a seismic event. During the seismic event, cyclic shear stresses cause the development of excessive pore water pressure between the soil grains, effectively reducing the internal strength of the soil. This phenomenon is generally limited to unconsolidated, clean to silty sand (up to 35 percent non-plastic fines) and very soft silts lying below the ground water table. The higher the ground acceleration caused by a seismic event, the more likely liquefaction is to occur. Severe liquefaction can result in catastrophic settlements of overlying structural improvements and lateral spreading of the liquefied layer when confined vertically but not horizontally. Soil borings contained in the AFC

indicate ground water is most likely present at depths between 7 and 10-1/2 feet below existing grade. The borings also indicate the site is underlain by sandy to silty clay soils to the depths explored (60 feet). Applicant has identified a potentially liquefiable sand layer at approximately 23 feet from the ground surface. Staff verified that this layer is likely susceptible to liquefaction; however, impacts to the surface and proposed structures is considered low due to the presence of over 20 feet of overlying, non-liquefiable clay soils. Based on the depth of this layer in relation to any free-face exposure in the area, the potential for lateral spreading is considered low. (Ex. 1, p. 5.2-3.)

Surficial sedimentary units of predominately Pleistocene and Holocene age underlie the entire project area. These sediments include deposits that range from continental alluvial and fluvial fan-derived sediments, to subaerial flood plain (tule and cattail swamp) and near-shore bay deposits (mudflat, channel fill, tidal marsh, and estuary). Lithologies include sand, gravel, silt, and clay; all of which are potentially favorable to the preservation of paleontological resources. Two known paleontological sites exist within one-mile of the project area. Several other fossil assemblages have been collected from quaternary sediments bordering southern San Francisco Bay. These fossiliferous Quaternary sediments are the same age and are lithologically similar to those present at the LECEF site. (Ex. 3H, p. 17.)

Staff reviewed applicable geologic maps for this area and the information contained in the AFC and concluded that there are no known geological or mineralogical resources located at or immediately adjacent to the proposed LECEF site. (Exs. 1, p. 5.2-4; 2.) In addition, Applicant conducted a paleontological resources field survey and sensitivity analysis for the proposed project and the proposed linear facility improvements. Likewise, no significant fossil fragments were identified. However, several paleontological localities are present near the site in the same geologic formation present at the site. Therefore, the proposed LECEF site may contain significant

paleontological resources such that mitigation procedures will be necessary. (See **PAL-1-7**).¹²⁵ Staff's findings are reproduced below, as follows:

GEOLOGY, MINERAL RESOURCES AND PALEONTOLOGY, Table 1

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
GEOLOGY – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:			X	
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?		X		
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18- 1-B of the Uniform Building Code (1994), creating substantial risks to life or property?		X		
MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
PALEONTOLOGICAL RESOURCES – Would the project:				
a) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

(Ex. 1, p. 5.2-5.)

¹²⁵ Conditions of Certification with respect to Geology are covered under Conditions of Certification **GEN-1**, **GEN-5**, and **CIVIL-1** in the **FACILITY DESIGN** section.

FINDINGS AND CONCLUSIONS

Accordingly, based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Geological and paleontological resources exist in the area of the proposed project.
2. Construction and ground disturbance activities associated with the construction of the proposed project can potentially impose direct, indirect, and cumulative impacts to paleontological resources.
3. Mitigation measures required by the Conditions of Certification will assure that the activities associated with the proposed project will cause no direct, indirect, or cumulative adverse impacts to paleontological resources.
4. The proposed project will have no significant adverse impact on geological or paleontological resources.
5. Implementation of the Conditions of Certification will ensure that the project is constructed and operated in compliance with applicable laws, ordinances, regulations, and standards identified in the appropriate portion of **Appendix A** of this Decision.

We therefore conclude that the proposed project will not cause any significant adverse direct, indirect, or cumulative impacts to geological or paleontological resources.

CONDITIONS OF CERTIFICATION

PAL-1 Prior to ground disturbance, the project owner shall ensure that the designated paleontological resource specialist approved by the CPM is available for field activities and prepared to implement the conditions of certification.

The designated paleontological resources specialist shall be responsible for implementing all the paleontological conditions of certification and for using qualified personnel to assist in this work.

Protocol: The project owner shall provide the CPM with the name and statement of qualifications for the designated paleontological resource specialist.

The statement of qualifications for the designated paleontological resources specialist shall demonstrate that the specialist meets the following minimum qualifications: a degree in paleontology or geology or paleontological resource management and at least three years of paleontological resource mitigation and field experience in California, including at least one year's experience leading paleontological resource mitigation and field activities.

The statement of qualifications shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.

If the CPM determines that the qualifications of the proposed paleontological resource specialist do not satisfy the above requirements, the project owner shall submit another individual's name and qualifications for consideration.

If the approved, designated paleontological resource specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontological resource specialist by submitting the name and qualifications of the proposed replacement to the CPM, at least 10 days prior to the termination or release of the preceding designated paleontological resource specialist.

Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

Verification: At least 60 days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CPM), the project owner shall submit the name, statement of qualifications, and the availability for its designated paleontological resource specialist, to the CPM for review and approval. The CPM shall approve or disapprove of the proposed paleontological resource specialist.

At least 10 days prior to the termination or release of a designated paleontological resource specialist, the project owner shall obtain CPM approval of the replacement specialist by submitting to the CPM the name and resume of the proposed new designated paleontological resource specialist. Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

PAL-2 Prior to site mobilization, the designated paleontological resource specialist shall prepare a Paleontological Resources Monitoring and Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive paleontological resources, and submit this plan to the CPM for review and approval. After CPM approval, the project owner's designated paleontological resource specialist shall be available to implement the Monitoring and Mitigation Plan, as needed, throughout project construction.

Protocol: The project owner shall develop a Paleontological Resources Monitoring and Mitigation Plan in accordance with the guidelines of the Society of Vertebrate Paleontologists (SVP, 1994) that shall include, but not be limited to, the following elements and measures:

1. A discussion of the sequence of project-related tasks, such as any pre-construction surveys, fieldwork, flagging or staking; construction monitoring; mapping and data recovery; fossil preparation and recovery; identification and inventory; preparation of final reports; and transmittal of materials for curation;
2. Identification of the person(s) expected to assist with each of the tasks identified within this condition for certification, a discussion of the mitigation team leadership and organizational structure, and the inter-relationship of tasks and responsibilities;
3. Where monitoring of project construction activities is deemed necessary, the extent of the areas where monitoring is to occur and a schedule for the monitoring;
4. An explanation that the designated paleontological resource specialist shall have the authority to halt or redirect construction in the immediate vicinity of a vertebrate fossil find until the significance of the find can be determined;
5. A discussion of equipment and supplies necessary for recovery of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;
6. Inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontologists standards and requirements for the curation of paleontological resources; and
7. Identification of the institution that has agreed to receive any data and fossil materials recovered during project-related monitoring and mitigation work, discussion of any requirements or specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution.

Verification: At least 45 days prior to the start of construction, the project owner shall provide the CPM with a copy of the Paleontological Resources Monitoring and Mitigation Plan prepared by the designated paleontological resource specialist for review and approval. If the plan is not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes.

PAL-3 Prior to the ground disturbance, and throughout the project construction period as needed for all new employees, the project owner and the designated paleontological resource specialist shall prepare, and the owner shall conduct, CPM-approved training to all project managers, construction supervisors, and workers who operate ground disturbing equipment. The project owner and construction manager shall provide the workers with the CPM-approved set of procedures for reporting any sensitive paleontological resources or deposits that may be discovered during project-related ground disturbance.

Protocol: The paleontological training program shall discuss the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall also include the set of reporting procedures that workers are to follow if paleontological resources are encountered during project activities. The training program shall be presented by the designated paleontological resource specialist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

Verification: At least 30 days prior to site mobilization, the project owner shall submit to the CPM for review and approval the proposed employee training program and the set of reporting procedures the workers are to follow if paleontological resources are encountered during project construction.

If the employee-training program and set of procedures are not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes before the beginning of construction.

Documentation for training of additional new employees shall be provided in subsequent Monthly Compliance Reports, as appropriate.

PAL-4 The designated paleontological resource specialist shall be present at all times he or she deems appropriate to monitor construction-related grading, excavation, trenching, and/or augering in areas where potential fossil-bearing sediments have been identified. If the designated paleontological resource specialist determines that full-time monitoring is not necessary in certain portions of the project area or along portions of the linear facility routes, the designated specialist shall notify the project owner.

Verification: The project owner shall include in the Monthly Compliance Reports a summary of paleontological activities conducted by the designated paleontological resource specialist.

PAL-5 The project owner, through the designated paleontological resource specialist, shall ensure recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: The project owner shall maintain in its compliance files copies of signed contracts or agreements with the designated paleontological resource specialist and other qualified research specialists who will ensure the necessary data and fossil recovery, mapping, preparation for analysis, analysis, identification and inventory, and preparation for and delivery of all significant paleontological resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resources Report and shall keep these files available for periodic audit by the CPM.

PAL-6 The project owner shall ensure preparation of a Paleontological Resources Report by the designated paleontological resource specialist. The Paleontological Resources Report shall be completed following completion of the analysis of the recovered fossil materials and related information. The project owner shall submit the paleontological report to the CPM for approval.

Protocol: The report shall include (but not be limited to) a description and inventory list of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the paleontological resource specialist that project impacts to paleontological resources have been mitigated.

Verification: Within 90 days following completion of the analysis of the recovered fossil materials, the project owner shall submit a copy of the Paleontological Resources Report to the CPM for review and approval under a cover letter stating that it is a confidential document.

PAL-7 The project owner shall include in the facility closure plan a description regarding facility closure activities' potential to impact paleontological resources. The conditions for closure will be determined when a facility closure plan is submitted to the CPM twelve months prior to closure of the facility. If no activities are proposed that would potentially impact paleontological resources, then no mitigation measures for paleontological resource management are required in the facility closure plan.

Protocol: The closure requirements for paleontological resources are to be based upon the Paleontological Resources Report and the proposed grading activities for facility closure.

Verification: The project owner shall include a description of closure activities described above in the facility closure plan.

D. SOIL AND WATER RESOURCES

This portion of the Decision concentrates on the project's potential to induce erosion and sedimentation, adversely affect surface and groundwater supplies, degrade surface and groundwater quality, and increase the potential for flooding.

SUMMARY OF THE EVIDENCE

1. Soils

Mocho Loam (Mq), Mocho Clay Loam (Mi), and Mocho Loam over Campbell- and Cropley-like soils (Mo), are the primary soil types covering the LECEF site.¹²⁶ Soil types for the linear facilities also fall within these three soil types. These soils are formed from sandstone and shale rock from recent fluvial deposition.

SOIL AND WATER Table 1
Soil Types Affected & Characteristics

Primary Soil Name	Slope Class percent	Depth Range	USDA Texture	Parent Material	Water Erosion Hazard	Permeability	Drainage	Revegetation Potential
Mocho Loam (Mq)	1 – 3 percent	0 – 6 ft.	Loam	Alluvium from sedimentary rocks	Slight	Moderate	Well Drained	Good in low alkali soils
Mocho Clay Loam (Mi)	0 – 1 percent	N/A	Clay Loam	Alluvium from sedimentary rocks	Slight	Moderate to Slow	Well Drained	Very Good to Good in low alkali soils
Mocho Loam Over Campbell & Cropley-like Soils (Mo)	1 – 3 percent	N/A	Loam over Clay Loam	Alluvium from sedimentary rocks	Slight	Moderate to Slow	Well Drained	Very Good

Source: (Ex. 1, p. 4.9-5.)

¹²⁶ In an August 29, 2001 letter to the Energy Commission the California Department of Conservation stated that it has reclassified 50 acres including the 15 acre LECEF site, from the “prime farmland” category to the “other land” category. The site, which is relatively flat at an elevation approximately 15 feet above mean sea level (msl), will no longer be available for agricultural use upon LECEF’s construction. (Ex. 1, p. 4.9-5.)

Based on LECEF site soil characteristics, erosion potential from water is slight. LECEF's construction will include implementation plans for control of soil erosion during construction and operation. (Ex. 1, p. 4.9-5; see *also* Conditions **SOIL & WATER 1- 4 & 10.**)¹²⁷

2. Water Resources

LECEF's proposed site lies just west of Coyote Creek,¹²⁸ which runs along the eastern boundary of the site and discharges to the north into San Francisco Bay.¹²⁹ Existing water resources near the site include wells for domestic water supply for previous homesteads and agricultural wells used to water the preexisting greenhouses. Municipal wells in the vicinity once operated by the City of San Jose have been abandoned, thus municipal water is not available to the site.¹³⁰ (Exs. 1, p. 4.9-6; 1A, p.4.9-1; 4L, p. 49.)

Six wells were located on the 55-acre parcel acquired by the Applicant, although none are located on the LECEF site. Applicant has destroyed five of the wells

¹²⁷ For our discussion of soil and water contamination at the site, refer ahead to our section on **Waste Management** for further discussion.

¹²⁸ Coyote Creek and the Coyote Creek Bypass Channel are located approximately 700 and 1,000 feet, respectively east of the LECEF site. Coyote Creek is the largest drainage basin in the Santa Clara Valley, collecting runoff from a 320 square mile watershed spanning portions of the Diablo Range, Santa Cruz Mountains and Santa Clara Valley. In its 80-mile length, Coyote Creek passes through two flood control reservoirs at the western base of the Diablo Range, and flows northwest through the City of San Jose, and discharges into San Francisco Bay. The stream channel has been modified for flood control purposes in limited reaches through the urbanized Santa Clara Valley. In 1997, a new overflow channel (Coyote Creek Flood Bypass) was built to divert floodwaters along the south side of Newby Island Landfill. Additionally, an enlarged and enhanced levee system was constructed along lower portions of Coyote Creek to improve flood conveyance capacity. (Ex. 1, p. 4.9-6.)

¹²⁹ San Jose/Santa Clara County's Water Pollution Control Plant (WPCP), which will serve as the primary water supply for the LECEF's industrial uses, lies to the northwest; to the west are WPCP buffer lands. (Ex. 1, p. 4.9-4.)

¹³⁰ There are no developed surface fresh-water resources near the site. Well water near the site is reported to be influenced by the neighboring South Bay water and is saline. Thus, potable water demands will be supplied to the site in water trucks operated by local drinking water suppliers. (Exs. 1, p. 4.9-7; 4L, p.49.)

under a permit from the Santa Clara Valley Water District (SCVWD) consistent with a City of San Jose directed demolition directive for the site.¹³¹ One well will remain operative through LECEF's construction to meet water needs for dust suppression, compaction, and truck wheel washing. The remaining well will also be destroyed following construction. (3/11/02 RT 233:12-19; Exs. 1, p. 4.9-6; 1A, p.4.9-1; 4L, p. 49; see *a/so* Condition **SOIL & WATER 5**.)

The San Jose/Santa Clara Water Pollution Control Plant (WPCP), which borders the site to the northwest, will provide recycled water, via a 1,000-foot (lineal), 18-24 inch pipeline interconnect, for fire services and process and cooling water.¹³² Recycled water will be primarily used for cooling water, NO_x suppression injection and power augmentation. The LECEF will require a water supply of approximately 0.50 mgd (315 gpm) or 560 acre-feet/year (AFY) under average conditions, and 0.82 mgd (536 gpm) or 913 AFY under peak demand conditions. During peak ambient conditions, about 50 percent of the water will be used for cooling the inlet air to the gas turbines. During average ambient conditions, less than 10 percent of the water will be used for cooling the inlet air. (3/11/02 RT 233:18-25; Ex. 1, p. 4.9-7.)

LECEF's wastewater discharge will be returned to the WPCP via a 2,700-foot (lineal), 12-15-inch pipeline-interconnect to the main sewer line at Zanker Road. LECEF wastewater, produced from various processes at the proposed facility, will consist of microfiltration backwash, cooling tower blowdown, reverse osmosis

¹³¹ See the Land Use section of our Decision for a fuller discussion.

¹³² Recycled water is supplied through the WPCP South Bay Water Recycling Program (SBWRP). The WPCP is jointly owned by the Cities of San Jose and Santa Clara, however, it is operated solely by the City of San Jose. The WPCP has a rated treatment capacity of 167 million gallons per day (mgd) but is required to maintain discharges below 120 mgd. Recycled water from the WPCP already meets California Code of Regulations Title 23 standards for unrestricted use. Therefore, the recycled water is suitable for cooling tower makeup without further treatment. Applicant, however, will apply additional treatment to obtain a higher quality, which is required particularly for NO_x control and power augmentation. (Ex. 1, p. 4.9-7.)

concentrate and process drains, as well as sanitary wastewater. These all will be discharged to the WPCP as influent for treatment. (Exs. 1, p. 4.9-4; 4L, p.49.)

SOIL AND WATER Table 2 below summarizes the use of recycled water for LECEF operations, and the discharge of wastewater associated with the proposed LECEF.

**SOIL AND WATER Table 2
LECEF Facility Water Balance**

Component Stream	Average Day (gpm)	Peak Day (gpm)
Turbine Injection for NOx Control	196	180
Turbine Injection for Power	20	20
Cooling Tower Makeup	25	256
Backwash for Microfiltration	15	25
Reverse Osmosis Concentrate	54	50
Process Drains	5	5
Total Water Consumption (Net)	315	536
Microfiltration Backwash	15	25
Blowdown Cooling Tower ¹³³	16	97
Process Drains	5	5
Reverse Osmosis Concentrate	54	50
Sanitary Wastewater	Not Estimated	Not Estimated
Total Wastewater (Net)	90	177

Source: (Ex. 1, p. 4.9-7.)

LECEF's proposed site sits within the alluvial plain of the Santa Clara Valley groundwater basin. Regional groundwater flows to the north and west towards San Francisco Bay, with local groundwater flowing east towards Coyote Creek. Groundwater information available near the proposed project site indicates that shallow groundwater occurs at depths of 6.5 to 19 feet below ground surface. The project site is underlain by stiff clays, loose clayey silt and clayey sand, to depths of 5 to 20 feet. Below these materials are interbedded strata of very stiff

¹³³ Blowdown from the cooling tower reflects three cycles of concentration. (Ex. 1, p. 4.9-4.)

silty clay and loose to dense silty sand and sandy gravel, to at least 30 feet. These sediments have relatively poor groundwater yield and quality, and are subject to saltwater intrusion. The shallow zone is separated from deeper aquifers by a blue clay aquitard, which extends to approximately 150 feet. Below this aquitard, groundwater is used as a supply throughout Santa Clara groundwater basin. (Ex. 1, p. 4.9-6.)

LECEF's stormwater accumulations over the 15 developed acres (out of the 55-acre parcel) will be managed separately between process and non-process areas.¹³⁴ Open process areas will be curbed to contain the maximum 25-year, 24-hour design storm runoff in addition to the volume of the largest storage container. Stormwater drainage will be conveyed to an oil/water separator, and then into a holding tank for testing. If appropriate discharge criteria are met, the wastewater will be pumped to the sanitary sewer system. If discharge criteria are not met, the wastewater will be treated before being discharged to the sanitary sewer system. Treatment methods will be subject to the type of contaminants that are present. (Ex. 1, p. 4.9-8/12.)

Stormwater from non-process areas will be conveyed through an oil/water separator into the storm water conveyance and detention system. The storm water will drain to a sump where discharge into Coyote Creek will be pumped and regulated to not exceed 35 cubic feet per second (cfs). (Ex. 1, p. 4.9-8/12.)

A 750 foot (lineal) stormwater discharge pipeline, 42-inches in diameter, will convey stormwater during project operation, and will discharge into Coyote Creek. The pipeline, which will require excavation and placement, will run from the northeast corner of the LECEF site to the east. It will undercross existing flood control structures consisting of a levy/access road, the Coyote Creek

¹³⁴ Stormwater runoff from the project site now runs by sheet flow to the northwest, towards Zanker Road; drainage ditches along Zanker Road are minimal in size and are likely frequently exceeded in capacity. Stormwater continues to drain near the WPCP sludge ponds overland and eventually drains into Artesian Slough, a tributary to Coyote Creek. (Ex. 1, p. 4.9-8.)

Bypass (Overflow) Channel, and through the raised stream bank of Coyote Creek. The stream bank has been armored with rip-rap for erosion control. The discharge pipe will include a flap gate to prevent backflow, and will be directed downstream at about a 45° angle, pointing diagonally across and down the stream. (Ex. 1, p. 4.9-4/8.)

Our Conditions will require Applicant to finalize its drafts of LECEF's Storm Water Pollution Prevention Plans (SWPPP's)/Erosion Control Plans for both construction and industrial activities (as required by the General NPDES Permits) and present them to the Compliance Project Manager (CPM).¹³⁵ The construction SWPPP shall include a final Sediment and Erosion Plan that must be submitted to the CPM prior to the start of construction. (3/11/02 RT 233:20-234-1; Ex. 1, p. 4.9-12; see *also* Ex. 2U, p. 14 & Attach. WR 96; see *also* Conditions **SOILS & WATER-1-4**.)¹³⁶

In addition, Applicant will be required to:

- Obtain a Storm Water Discharge Permit for construction of a storm water outlet, in order to discharge flows into Coyote Creek, consistent with the requirements of SCVWD's Ordinance No. 83-2 (see **SOILS AND WATER-4**);
- Issue pre-construction notification and obtain authorization if needed, from the Army Corps of Engineers regarding compliance with

¹³⁵ The Clean Water Act (the Act) requires states to set standards to protect water quality through the regulation of point source and certain non-point source discharges to surface water. (33 U.S.C. § 1257 et seq.) These discharges are regulated through requirements set forth in specific or general National Pollutant Discharge Elimination System (NPDES) Permits. Stormwater discharges during construction and operation of a facility, and incidental non-stormwater discharges associated with pipeline construction also fall under the Act, and are normally addressed through a general NPDES permit. In California, administration of the Act's stormwater discharge requirements has been delegated to nine Regional Water Quality Control Boards. (Ex. 1, p. 4.9-1.)

¹³⁶ Testimony at the hearing established that Condition **SOILS & WATER-3** was substantially rewritten since the SA and its Supplement at the request of the SFBay RWQCB. (3/11/02 RT 230:5-231-1; Ex. 1D.)

Nationwide Permit #'s 3 and 7, consistent with Section 404 of the Clean Water Act¹³⁷ (see **SOILS AND WATER-10**);

- Satisfy the requirements of the User Agreement for Recycled Water consistent with the SBWR Program; (see **SOILS AND WATER- 6-9.**);
- Satisfy the requirements of the Industrial Wastewater Discharge Permit consistent with City of San Jose requirements, which will set the conditions for accepting LECEF's wastewater stream into the City's WPCP. (Ex. 1, p. 4.9-3.)

3. Cumulative Impacts

The evidence of record demonstrates that the proposed project will not significantly change the volume or quality of wastewater discharged to the WPCP. Wastewater produced from LECEF's cooling process would have a negligible impact on salinity because it will:

- account for less than one percent of SBWRP intake; and
- both the SCVWD and the City of San Jose are currently developing a Salinity Control Program to request WPCP dischargers to consider pretreatment operations to reduce salinity.

Staff concluded there would be no significant cumulative impacts to water quantity or quality. (3/11/02 RT 221:12-222:1; 231:3-233-11.)

LECEF's construction and operational activities may cause an increase in cumulative wind and water erosion. LECEF's implemented SWPPP and Erosion Prevention Plans would ensure, however, that it would not contribute significantly to cumulative erosion and potential sedimentation impacts. (3/11/02 RT 233:20-234-3.)

¹³⁷ Nationwide Permit #3 applies to replacement of rip-rap, which may be disturbed in the course of excavation for the new outlet. Nationwide Permit #7 applies to installing an outfall structure

COMMISSION DISCUSSION

Intervenor Mr. Garbett's cross-examination attempted to establish that fresh water was available to the project as a more suitable alternative to recycled water. In addition, Mr. Garbett sought to establish harmful impacts arising from the presence of pathogens, salts and heavy metal particulates in recycled water and drifts from LECEF's cooling towers. Since these elements would not pose any impacts if fresh water were used, Mr. Garbett sought to establish that Applicant's choice to use recycled water would create significant and unmitigated impacts. (3/11/02 RT 222:16-229-9; 234:13-245:24.)

The Committee is persuaded that Applicant's use of recycled water will present no impacts to the local area, much less any significant impacts. State water policy favors the use of recycled water for power plant cooling. (Ex. 1, p. 4.9-2, citing the California Water Code §§ 13550 et seq.) Indeed, Staff's expert witness explained that recycled water, when treated to Title 23 Standards (requiring tertiary treatment), is safe for LECEF's proposed use:

In other words, using this tertiary treated water is safe for firefighting, for cooling and if they want to use it for irrigation, as well.

Now, treated water is essentially pathogen free. Now that does not mean that there's not a single pathogen in the water. But what it does mean is there's not a sufficient number of them [to cause human harm]. (3/11/02 RT 242:1-245-24.)

Accordingly, we are persuaded that the weight of the evidence demonstrates that Applicant has carried its burden of proof on this topic.

within Coyote Creek.

FINDINGS AND CONCLUSIONS

Based upon the evidence of record before us, we find and conclude as follows:

1. Soils in the project area are susceptible to wind and water erosion.
2. LECEF's aboveground transmission line and the underground recycled water supply line will be located along existing rights-of-way and will generally follow current access roads.
3. LECEF will require a water supply of approximately 0.50 mgd (315 gpm) or 560 acre-feet/year (AFY) under average conditions, and 0.82 mgd (536 gpm) or 913 AFY under peak demand conditions.
4. LECEF will use San Jose/Santa Clara Water Pollution Control Plant (WPCP) treated reclaimed water for fire, process and cooling water in the operation of the power plant.
5. The WPCP has sufficient recycled water to meet project needs.
6. Recycled water from the WPCP meets California Code of Regulations Title 23 standards for unrestricted use.
7. LECEF's wastewater discharge will be returned to the WPCP.
8. Prior to construction and operation, Applicant shall submit draft and final Storm Water Pollution Prevention Plans (SWPPP)/Erosion Control Plans for Construction and Industrial Operation. In addition, Applicant shall also obtain approval by the SWRCB of the Notice of Intent for operating under General NPDES Permit for Discharge of Storm Water Associated with Industrial Activity.
9. Applicant will provide a final Sediment and Erosion Control Plan and SWPPP to the CPM prior to the start of construction.
10. The Conditions of Certification below will ensure that soil and water erosion does not create significant adverse environmental impacts.
11. Implementation of the Conditions of Certification below will assure that the proposed project will comply with all applicable LORS pertaining to Soil and Water Resources as set forth in the appropriate portion of Appendix A of this Decision.

We therefore conclude that the proposed project will not create any significant direct, indirect, or cumulative adverse impacts to soil and water resources.

CONDITIONS OF CERTIFICATION

SOILS&WATER 1: Prior to beginning any site mobilization activities, the project owner shall obtain staff approval of a final Erosion Control Plan. The Erosion Control Plan shall include and be consistent with the standards normally required in the City of San Jose's Grading and Excavation Permit, for all project elements. The final plan shall be submitted for Compliance Project Manager's (CPM's) approval, and for review and comment by the City of San Jose, and shall include provisions for containing and treating any contaminated soil or groundwater. The final plan will also include changes as appropriate, incorporating the final design of the project.

Verification: The Erosion Control Plan shall be submitted to the CPM for review and approval and to the City of San Jose for review and comments at least sixty days prior to start of any site mobilization activities. The CPM must approve the final Erosion Control Plan prior to the initiation of any site mobilization activities.

SOIL & WATER-2: The project owner shall submit a Notice of Intent for construction under the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity to the State Water Resources Control Board (SWRCB), and obtain CPM approval of the related Storm Water Pollution Prevention Plan (SWPPP) for Construction Activity. The SWPPP will include final construction drainage design and specify Best Management Practices (BMP's) for all on and off-site LECEF project facilities. This includes final site drainage plans and locations of BMP's.

Verification: At least 60 days prior to the start of any site mobilization activities, the SWPPP for Construction Activity and a copy of the Notice of Intent for construction under the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity filed with the SWRCB, shall be submitted to the CPM. Approval of the final SWPPP plan by the CPM must be received prior to initiation of any site mobilization activities.

SOIL & WATER-3: The project owner shall submit the following to the CPM as appropriate in association with obtaining approval for construction and operation of a storm water outfall into Coyote Creek:

1. If through the permitting process, Nationwide Permits 3 and 7 are not required under Soil and Water-10 for construction of the storm water outfall in Coyote Creek, then the project owner shall submit an Application for 401 Water Quality Certification and/or Waiver of Waste Discharge Requirements to the San Francisco

Bay Regional Water Quality Control Board (SFBaySWQCB) to obtain a Conditional Waiver of Waste Discharge Requirements;

2. Based on a design that will only discharge storm water from non-process areas for operation of the storm water outfall into Coyote Creek, the project owner shall submit a Notice of Intent and acceptance from the State Water Resources Control Board (SWRCB) for operating under General NPDES Permit for Discharge of Storm Water Associated with Industrial Activity.

3. For operation of the storm water outfall into Coyote Creek, the project owner shall obtain CPM approval of the related Storm Water Pollution Prevention Plan (SWPPP) for Industrial Activity. The SWPPP will include final operating drainage design and specify BMP's and monitoring requirements for the LECEF project facilities. This includes final site drainage plans and locations of BMP's.

Verification:

1. At least 30 days prior to construction of the storm water outfall in Coyote Creek, and if through the permitting process a Conditional Waiver of Waste Discharge Requirements is required, a Conditional Waiver of Waste Discharge Requirements shall be submitted to the CPM. (Please note that if the RWQCB determines a Conditional Waiver of Waste Discharge Requirements is necessary, the Application for 401 Water Quality Certification and/or Waiver of Waste Discharge Requirements must be filed at least 120 days prior to expected approval of the SFBay RWQCB.

2. At least 30 days prior to the start of project operation, evidence of acceptance by the SWRCB of the Notice of Intent for operating under General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity shall be submitted to the CPM.

3. At least 60 days prior to the start of project operation, the SWPPP for Industrial Activity shall be submitted to the CPM. Approval of the final plan by the CPM must be received prior to initiation of project operation.

SOIL & WATER-4: The project owner shall provide the CPM with all information/data necessary to satisfy the requirements of the Storm Water Discharge Permit for construction of a storm water outlet, and to discharge flows into Coyote Creek, consistent with the requirements of Santa Clara Valley Water District's (SCVWD's) Ordinance No. 83-2.

Verification: At least 60 days prior to site mobilization, the project owner shall submit all elements required for a Storm Water Discharge Permit to the CPM for review and approval and to the SCVWD for review and comments.

SOIL & WATER-5: The project owner shall provide the CPM with all information/data necessary to satisfy the requirements of the Well Destruction Permit for removal and closure of existing water wells, consistent with the requirements of Santa Clara Valley Water District's (SCVWD's) Ordinance No. 90-1. The project owner shall obtain staff approval prior to construction.

Verification: At least 60 days prior to site mobilization, the project owner shall submit all elements required for a Well Destruction Permit to the CPM for review and approval and to the SCVWD for review and comments.

SOIL & WATER-6: The project owner will install metering devices and record on a monthly basis the amount of recycled water used by the project. The project owner shall prepare an annual summary, which will include the monthly range and monthly average of daily usage in gallons per day, and total water used by the project on a monthly and annual basis in acre-feet. For subsequent years, the annual summary will also include the yearly range and yearly average water use by the project. This information will be supplied to the CPM.

Verification: The project owner will submit as part of its annual compliance report a water use summary to the CPM on an annual basis for the life of the project. Any significant changes in the water supply for the project during construction or operation of the plant shall be noticed in writing to the CPM at least 60 days prior to the effective date of the proposed change.

SOIL & WATER-7: The project owner shall provide the CPM with all information/data necessary to satisfy the requirements of the Recycled Water Use Permit for use of recycled water under the South Bay Water Recycling (SBWR) Program.

Verification: At least 60 days prior to site mobilization, the project owner shall submit all elements required for the Recycled Water Use Permit to the CPM for review and approval and to the City of San Jose for review and comments.

SOIL & WATER 8: The project owner shall provide the CPM with all information/data necessary to satisfy the requirements of the Industrial Wastewater Discharge Permit for its proposed disposal of industrial and sanitary waste into the San Jose/Santa Clara WPCP.

Verification: At least 60 days prior to operation, the project owner shall submit all elements required for the Industrial Wastewater Discharge Permit to the CPM for review and approval and to the City of San Jose for review and comments.

SOIL & WATER-9: The project owner shall provide the CPM with evidence of submitting an Engineer's Report for Title 22 Reclamation Requirements to the CA Department of Health Services, as applicable for obtaining unrestricted use of recycled water.

Verification: At least 120 days prior to project operation, the project owner shall submit to the CPM evidence of submitting an Engineer's Report for Title 22 Reclamation Requirements to the CA Department of Health Services.

SOIL & WATER-10: The project owner shall provide the CPM with evidence of pre-construction notification and authorization from the Army Corps of Engineers regarding compliance with Nationwide Permit #'s 3 and 7, consistent with Section 404 of the Clean Water Act, as applicable for placement of the storm water outfall in Coyote Creek. In association with obtaining authorization for use of Nationwide Permit #'s 3 and 7, the Project owner will be directed to obtain Section 401 Water Quality Certification from the SWRCB.

Verification: At least 30 days prior to construction of the storm water outfall, the project owner shall submit to the CPM evidence of consultation with the Army Corps of Engineers (ACOE) and authorization from the ACOE regarding of Nationwide Permits #'s 3 and 7 as needed to comply with Section 404 of the Clean Water Act. If Nationwide Permits #'s 3 and 7 are required, at least 30 days prior to construction of the storm water outfall, the project owner shall submit evidence to the CPM regarding Section 401 Water Quality Certification from the SWRCB.

E. WASTE MANAGEMENT

The LECEF will generate hazardous and nonhazardous wastes during construction and operation. This topic reviews Applicant's waste management plans to reduce the risks and environmental impacts associated with the handling, storing, and disposing of project-related wastes.

Federal and state laws regulate the management of hazardous waste. Hazardous waste generators must obtain EPA identification numbers, and use only permitted treatment, storage, and disposal facilities. Registered hazardous waste transporters must handle the transfer of hazardous waste to disposal facilities. This portion of the Decision assesses whether this will result in any potential environmental impact, and examines whether:

- wastes generated during construction and operation will be managed in an environmentally safe manner;
- disposal of wastes will result in significant adverse impacts to existing waste disposal facilities; and
- waste management practices will comply with all applicable LORS standards.

SUMMARY OF THE EVIDENCE

The site is in an area bounded by vacant land, and residential, commercial, and agricultural uses.¹³⁸ The site was originally developed as an orchard, which was subsequently replaced by nursery facilities and several residences. The nursery complexes included facilities for the storage of pesticides and petroleum products (gasoline and diesel fuel), greenhouses, boilers, water wells and storage tanks. These facilities were in an array of conditions ranging from operational to abandoned to

¹³⁸ The San Jose-Santa Clara Water Pollution Control Plant (WPCP) is situated to the northwest of the proposed site. WPCP buffer land exists to the west and the facility's sludge drying ponds exist to the north of the proposed project site. The WPCP will be the treatment facility for project non-hazardous wastewater via LECEF's connection with the City of San Jose sewer system. (Exs. 1, p. 4.13-3; 3J, p. 37.)

decaying and hazardous (as a public nuisance). Because the condition of the site attracted safety nuisances, the City of San Jose's Fire Department requested and received permission for the site to undergo limited demolition and remediation--associated with dilapidated buildings, greenhouses, and associated facilities. (Exs. 1, p. 4.13-3; 2 [Vol. 2], App. 8.12.)

1. Soil and Groundwater Contamination

Because of the age (pre-1980's) of the existing structures that will be removed, asbestos and lead-based paints were suspected to be present on the project site. In addition, previous agricultural activities on the site have resulted in elevated levels of several pesticides and associated metals (arsenic and lead) in the soil, as described by the Phase II Soil and Groundwater Quality Evaluation and Supplemental Soil Quality Evaluation.¹³⁹ (Ex. 1, p. 4.13-5.)

Specifically, the Phase II evaluation found three distinct sampling locations in shallow soil that yielded total DDT concentrations in excess of Total Threshold Limit Concentration (TTLC) values, but less than the Industrial Preliminary Remediation Goal (PRG) values.¹⁴⁰ These discoveries make the soil in those locations a hazardous waste if hauled off-site, but do not mandate an onsite cleanup effort. Nevertheless, the Phase II Supplemental Soil Quality Evaluation recommends excavation and disposal of approximately 15 cubic yards of the DDT contaminated soil. (Ex. 1, p. 4.13-5.)

Moreover, detected concentrations of toxaphene at a single location previously used as a pesticide storage and mixing area exceed both the TTLC and PRG values. The Phase II Supplemental Assessment recommends the excavation and proper off-site

¹³⁹ Applicant commissioned a Phase I and a limited Phase II Environmental Site Assessment (ESA) to determine the condition of the site. During the Phase II ESA somewhat elevated levels of pesticides were detected in soil samples collected at the site. However, soil contamination was not present at levels where the U.S. EPA or the state would require site remediation. (Exs. 1, p. 4.13-5; 2 [Vol. 2], App. 8.12.)

disposal of the soil within a 7-foot by 7-foot by 2-foot deep area encompassing this location. (Ex. 1, p. 4.13-5.)

In both cases where state and/or federal values were exceeded, Staff found that Applicant had appropriately remediated the site. Absent the several instances where detected levels of DDT and toxaphene exceeded state and federal values, the presence of pesticides and associated metals was found to be within those values, indicating no significant threat to human health in an industrial setting. (Ex. 1, p. 4.13-5.)

One gasoline and two diesel fuel underground storage tanks (USTs) are known to exist on the proposed project site, as is one 10,000 gallon tank previously used for storing diesel fuel but now empty and resting on the site's surface. The Phase II soil and groundwater evaluation did not detect the presence of any petroleum hydrocarbons, BTEX, or fuel oxygenates near these tanks. Applicant proposed to remove the tanks before beginning construction activities; Staff concluded that Applicant satisfactorily conducted remedial actions (including tank removal and the preparation of a Tank Closure Inspection Report). (Ex. 1, p. 4.13-5.)

Finally, Applicant discovered several water supply wells and a groundwater monitoring well on the site. Applicant destroyed these wells in accordance with well destruction guidelines issued by the Santa Clara Valley Water District. All existing structures on the site that may have contained asbestos or lead-based paint have been identified, surveyed, and remediated consistent with appropriate standards. (Ex. 3J.)

2. Construction

The types of hazardous wastes normally generated during construction include waste lubricating oil, cleaning solvents, paints, batteries, oily rags and absorbent, and welding

¹⁴⁰ California's Total Threshold Limit Concentration (TTLC) values, and U.S. EPA Preliminary Remediation Goal (PRG) values, below which detected levels of contaminants present no significant threat to human health in an industrial setting. (Ex. 1, p. 4.13-5.)

materials. Construction related activities will generate more than 40 tons of nonhazardous waste. This will consist of 10 tons of wood, glass, paper, and plastic; 20 tons of concrete; and 10 tons of metal. Recycling will reduce much of the wastes, including paper, wood, glass, plastic, and scrap metal. The AFC lists pipe flushing and cleaning fluids, passivating fluids and solvents as the primary hazardous wastes generated during construction. The construction contractor will be responsible for all hazardous wastes during the construction phase.¹⁴¹ (Exs. 1, p. 4.13-6/7; 2 [Vol. 1], § 8.13.2.2.) All hazardous wastes generated during construction will be recycled, or disposed of in a licensed, hazardous waste treatment or disposal facility.

We conclude that all hazardous wastes generated during construction will be recycled or disposed of in a licensed hazardous waste treatment or disposal facility. In addition, we conclude that that there are not likely to be significant impacts due to managing wastes from facility construction because all such wastes will be handled in conformance with applicable LORS and in an environmentally safe manner. (Ex. 1, p. 4.13-6/7; see **WASTE-2**.)

3. Operation

The AFC lists hazardous wastes expected to be generated during facility operation, along with the origin, composition, estimated quantity, classification, and disposal method for each. Project operation will generate minimal amounts of nonhazardous waste, on the order of 20 cubic yards per year. These wastes include spent air pollution control catalyst, used oil and sorbents, cooling tower sludge, laboratory analysis waste, and chemical feed area drainage. Other typical operational hazardous wastes might include paints, thinners, solvents, and batteries. Some of the hazardous wastes such as used oil, solvents, batteries, and the spent SCR catalyst can be recycled. Other

¹⁴¹ Additional hazardous wastes could be generated during construction if contaminated soils are encountered during site preparation or linear facility construction. (Ex. 1, p. 4.13-6.) However, our Conditions will ensure that any such wastes will be handled and disposed of appropriately. (See Conditions **WASTE-4 & 5**.)

wastes can be treated on-site (neutralized), and still others will require off-site disposal. Applicant intends to follow the hierarchical approach to waste management that begins with reduction, then recycling, then treatment, and finally disposal, when necessary. (Exs. 1, p. 4.13-6/72 [Vol. 1], Table 8.13-1.)

Operational wastes will be properly characterized, segregated in bermed storage areas, and accumulated for time periods less than 90 days. They will then be transported offsite to approved treatment, storage, or disposal facilities by licensed hazardous waste haulers using appropriate manifests. We conclude that all hazardous wastes generated during operation will be managed in accordance with federal and state laws and regulations including licensing, personnel training, waste storage times, and reporting and record keeping. (See Condition **WASTE-1 & 2.**)

4. Potential Impacts on Waste Disposal Facilities

The AFC describes waste disposal sites suitable for recycling and disposal of project-related non-hazardous construction and operation wastes. The listed landfills have estimated remaining capacities ranging from 9 to 40 years. For example, the Newby Island Sanitary Landfill, is permitted to receive 3,260 tons per day, is operating at 2,700 tons per day, and has an estimated remaining capacity for 31 more years. In addition, because San Jose has a “free market” system for the collection of solid waste, LECEF will have to select from 23 different franchised companies to determine who will collect and dispose of project generated waste. Project operation will generate minimal amounts of nonhazardous waste, on the order of 20 cubic yards per year. (Exs. 1, p. 4.13-7; 2 [Vol. 1], § 8.13.3.1 & Table 8.13-2.)

We conclude that the total amount of nonhazardous waste generated from project construction and operation will contribute only a fraction of one percent of available landfill capacity. Staff concludes that this potential impact will be less than significant, and we concur with that assessment. (Ex. 1, p. 4.13-7/8.)

5. Cumulative Impacts

Due to the comparatively minor amounts of wastes generated during project construction and operation, the insignificant impacts on individual recycling and disposal facilities, and the availability of additional regional landfills, we conclude that the cumulative impacts will be insignificant for both hazardous and nonhazardous wastes. Further, we concur with Staff's Assessment that this conclusion is identical whether or not the US Dataport project is ever constructed. (Ex. 1, p. 4.13-8.)

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we make the following findings and conclusions:

1. The proposed project will generate hazardous and non-hazardous wastes during construction and operation.
2. Excavation activities may expose construction workers to hazardous metals or organics in the soil.
3. Under Applicant's waste management plan, the project will recycle hazardous and nonhazardous wastes to the extent possible and in compliance with applicable LORS.
4. Hazardous wastes that cannot be recycled will be transported by registered hazardous waste transporters to one of the three California Class I landfills.
5. Nonhazardous wastes that cannot be recycled will be disposed at nearby Class III landfills.
6. The proposed project, either alone or in combination with the US Dataport project will not create quantities of hazardous or nonhazardous construction or operational wastes sufficient to create a significant adverse impact upon available Class I or Class III landfills.
7. Due to the availability of hazardous and nonhazardous waste disposal facilities, and the relatively inconsequential amount of waste generated by the project, potential impacts to existing facilities will be insignificant.

8. With implementation of the Conditions of Certification listed below, the proposed project will conform with all applicable LORS relating to waste management as identified in the pertinent portions of APPENDIX A of this Decision.

We therefore conclude that the disposal of hazardous and/or non-hazardous wastes generated by construction and operation of the proposed project will not create any significant adverse direct, indirect, or cumulative impacts.

CONDITIONS OF CERTIFICATION

WASTE-1 Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

Verification: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the manner in which project-related wastes are managed.

WASTE-2 Prior to the start of construction and operation, the project owner shall prepare and submit to the CEC CPM, for review and comment, a waste management plan for all wastes generated during pre-construction, construction and operation of the facility, respectively. The plans shall contain, at a minimum, the following:

- A description of all waste streams, including projections of frequency, amounts generated and hazard classifications; and
- Methods of managing each waste, including treatment methods and companies contracted with for treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, employee protection, and recycling and waste minimization/reduction plans.

Verification: No less than 30 days prior to the start of construction, the project owner shall submit the construction waste management plan to the CPM for review. The operation waste management plan shall be submitted no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 20 days of notification by the CPM (or mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to planned management methods.

WASTE-3 The project owner shall have a Registered Professional Engineer or Geologist, with experience in remedial investigation and feasibility studies, available for consultation during soil excavation and grading activities. The Registered Professional Engineer or Geologist shall be given full authority to oversee any earth moving activities that have the potential to disturb contaminated soil.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit the qualifications and experience of the Registered Professional Engineer or Geologist contracted for consultation to the CPM for approval.

WASTE-4 If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Registered Professional Engineer or Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and file a written report to the project owner and the CPM stating the recommended course of action. Depending on the nature and extent of contamination, the Registered Professional Engineer or Geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the Registered Professional Engineer or Geologist, significant remediation may be required, the project owner shall contact representatives of the San Francisco Regional Water Quality Control Board, the Santa Clara County Certified Unified Permitting Agency (CUPA), and the Berkeley Regional Office of the California Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any final reports filed by the Registered Professional Engineer or Geologist to the CPM within five days of their receipt.

WASTE-5 Both the project owner and its construction contractor shall obtain unique hazardous waste generator identification numbers from the Department of Toxic Substances Control prior to generating any hazardous waste.

Verification: The project owner and its construction contractor shall keep copies of the identification numbers on file at the project site and notify the CPM via the monthly compliance report of their receipt.

VIII. LOCAL IMPACT ASSESSMENT

All aspects of a power plant project effect, in differing degrees, the community in which it is located. The effect of the various elements of a project upon the local area varies from case to case depending upon the nature and the extent of the community and of the associated impacts. In the present instance, we believe the technical elements discussed in this portion of our Decision are those constituting the most likely areas of potential local concern.

A. LAND USE

The discussion of land use impacts for the LECEF focuses on two main issues:

- the proposed project's plan to conform with local land use plans, ordinances, and policies; and
- its potential to have direct, indirect, and cumulative conflicts with existing and planned uses.

In general, a power plant project can be incompatible with existing or planned land uses when it creates unmitigated noise, dust, public health hazards or nuisances, traffic, or visual impacts, or when it significantly restricts existing or future uses.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The proposed LECEF project would be located on the former Lin-Hom property (54.6 acres), which has been used as a plant nursery in the past. Additional development of the site included residential buildings, old greenhouses, trailers and modular structures. Applicant has demolished old structures from the Lin-

Horn era under a City of San Jose use permit so that the proposed site is now vacant. (Ex. 1, p. 4.5-6.)¹⁴²

On August 29, 2001, the California Department of Conservation (DOC), Farmland Mapping and Monitoring Program, issued a letter to the CEC regarding the site's reclassification from Prime Farmland to Other Land. The DOC used aerial photographs, a site visit, and telephone contacts to determine that the former Lin-Hom property was "extremely dilapidated; no nursery activity had occurred in the last six years. Due to this inactivity, the DOC authorized the reclassification of the site to "Other Land", which would be reflected in the 2002 Important Farmland Map of Santa Clara County. As such, Staff has determined both conversion of the proposed site to a light industrial use would not diminish the regional or statewide supply of valuable agricultural land and that no agricultural impacts would be associated with the proposed project. (Ex. 1, p. 4.5-7/22/24.)

On February 13, 2002, the City of San Jose's Planning Commission heard a revised Planned Development Zoning (PDZ) specifically for the LECEF project. The Planning Commission unanimously recommended the PDZ's approval to the City Council. On February 19, 2002, the City Council heard and passed the matter on a 10-1 vote.¹⁴³ The PDZ was approved under an urgency ordinance (No. 26579), making it effective upon adoption. On February 20, 2002, San Jose's Director of Planning Building, and Code Enforcement approved a Planned Development permit for grading and site preparation, and for construction of a private road in conjunction with the LECEF project. Issuance of the PD permit

¹⁴² As part of the USD project that was approved by the San Jose City Council on June 19, 2001, the project site was annexed to the City from the County of Santa Clara. Santa Clara County recorded the annexation to the City as a ministerial function on September 12, 2001. (Ex. 1, p. 4.5-6.)

¹⁴³ The Council also adopted Resolution No. 70844 for the LECEF project, making certain CEQA findings, and the City's use of the CEC Staff Assessment for CEQA purposes. On February 26, 2002, the City of San Jose filed a Notice of Determination in compliance with CEQA with the Santa Clara County Clerk. (Ex. 4G, p. 30.)

effectuates the PDZ for the site. (3/11/02 RT 299:13-300-19, 318:16-23; Ex. 4G, p. 30.)

At the Evidentiary Hearing, Mr. Garbett raised an issue concerning the legal sufficiency of the City of San Jose's action first to annex the LECEF property from the Santa Clara County, and second the City's action to complete its PDZ zoning review. (3/11/02 RT 299:17-311-8, 313:7-322:9; 327:6-329:4; 346:21-353:24.)

The Coalition established on cross-examination that the City of San Jose approved the LECEF project as part of a single PDZ application, or in other words, as a single project with LECEF's providing energy resources to USD. (3/11/02 RT 312:9-313-4.)

Finally, Applicant provided testimony and documentation, which support the fact that the City of San Jose took appropriate action on Applicant's PDZ request for the LECEF project. (3/11/02 RT 307:13-311-8.) In response to the Coalition's cross-examination, which established the single PDZ application, Applicant's witness testified that the City of San Jose effectuates its zoning by planned development permits. These permits are issued according to project phase without regard to any combined land use approval as occurred with the LECEF and USD PDZ application. (3/11/02 RT 323:15-324-14.)

Sensitive Receptors

The Cilker residents on the adjacent Cilker property are the nearest sensitive receptors. The primary single-family home on the Cilker property is located approximately 900-1200 feet from the proposed project site. A rental-unit mobile trailer home is located approximately 450-650 feet from the proposed project site and is situated on a strip lane west of the main Cilker residence. Beyond the

Cilker property, the closest residents are located 0.6 miles away, south of SR 237, in a trailer park surrounded by a masonry wall. (Ex. 1, p. 4.5-14.)

Anthony Spangler Elementary School and Curtner Elementary School are located in the City of Milpitas, approximately 1.0 mile and 1.3 miles, respectively, from the project site. George Mayne Elementary School and Alviso Park are located approximately 1.4 miles to the west. The Agnews Development Center is located approximately 1.1 miles south of the proposed project site, which is operated by the California Department of Development Services and provides care and treatment to people with developmental disabilities. A childcare center is located at the Cisco System facility on Barber Lane in the City of Milpitas, approximately 1.1 miles southeast of the site. The core Alviso residential community is located approximately 1.8 miles to the northwest of the proposed project. (Ex. 1, p. 4.5-14.)

Alviso Park's 7.5-acres is located adjacent to George Mayne Elementary School on North First Street, approximately 1.4 miles west of the site. A small community center is located on Liberty Street, less than one mile from the site. (Ex. 1, p. 4.5-13/14.)

Land Use

Local land use laws, ordinances, regulations and standards (LORS) applicable to the proposed project include the City of San Jose General Plan, Zoning Ordinance, Alviso Master Plan, and Riparian Corridor Policy Study, and the Santa Clara County Trails Master Plan.

Table 1 below summarizes relevant policies from the City General Plan, Alviso Master Plan and the Riparian Corridor Policy Study, and provides a brief description of their purpose and intent. The City of San Jose Zoning Ordinance (Zoning Ordinance) is the primary tool for achieving the objectives of the General

Plan, by implementing General Plan policies. The Zoning Ordinance provides detailed specifications for allowable development within areas designated by the General Plan. (Ex. 1, p. 4.5-3/5.)

LAND USE Table 1
Relevant Land Use Policies to the Proposed Project

Relevant Policy	Description
City of San Jose General Plan	
Economic Development Major Strategy	Strives to make San Jose a more “balanced community” by encouraging commercial and industrial growth to balance existing residential development.
Greenline Major Strategy	Directs the “preservation of the scenic backdrop of the hillsides surrounding San Jose, reserving land that protects water, habitat, or agricultural resources and offers recreational opportunities”.
Sustainable City Major Strategy	Mandates a “sustainable city, [which] is a city designed, constructed, and operated to minimize waste, efficiently use its natural resources, and to manage and conserve them for the use of present and future generations”.
Industrial Land Use 1	“Industrial development should incorporate measures to minimize negative impacts on nearby land uses”.
Urban Design Policy 1	“The City should continue to apply strong architectural and site design controls on all types of development for the protection and development of neighborhood character and for the proper transition between areas with different types of land uses”
Urban Design Policy 7	The City should require the undergrounding of distribution utility lines serving new development sites as well as proposed redevelopment sites. The City should also encourage programs for undergrounding existing overhead distribution lines. Overhead lines providing electrical power to light rail transit vehicles and high-tension electrical transmission lines are exempt from this policy.
Urban Design Policy 24	New development projects should preserve significant trees, and any adverse affects should be avoided through appropriate design measures and construction practices. When tree preservation is not feasible, the project should include appropriate tree replacement.
Tree Removal Controls	Protects native and non-native with trunks measuring 56 inches or more in circumference, 24 inches above the natural grade of slope. A tree removal permit usually requires the replacement of trees on a 3:1 or 4:1 ratio, as dictated by consultations with the City.

Relevant Policy	Description
Scenic Routes and Trails Diagram	<p>Due to the City's diverse natural environment, the City has: "many scenic and recreational opportunities...The Scenic Routes and Trails Diagram identifies the City's most outstanding natural amenities and establishes guidelines to develop and preserve these resources...Scenic routes, trails and pathways are incorporated into a single plan because they share many of the same characteristics and locations...They all provide scenic views of the natural areas of the City and are linear in form...Because these designations strive for many of the same objectives they sometimes overlap and are incorporated into corridors that provide access to both scenic resources and outdoor recreational opportunities". Urban Throughways are designated on the Scenic Routes and Trails Diagram and they include "all State and Interstate Highways that traverse through the City's Sphere of Influence".</p> <p>Trails and Pathways Corridors are "the interconnecting trail system in the City, providing many important access links to the regional parks and open spaces in or adjoining the City. The Scenic Routes and Trails Diagram indicates these focal points and designates the most feasible and accessible routes to develop trails.</p>
Trails and Pathways Policy 1	New development adjacent to the Trails and Pathways Corridors should not compromise safe trail access nor detract from the scenic and aesthetic qualities of the corridor.
Trails and Pathways Policy 2	When new development occurs adjacent to a designated Trails and Pathways Corridor, the City should encourage the developer to install and maintain the trail.
Riparian Corridor Policy 4	"New development should be designed to protect adjacent riparian corridors from encroachment of lighting, exotic landscaping, noise, and toxic substances into the riparian zone."
Hazards Policy 2	Levels of "acceptable exposure to risk" established for land uses and structures based on descriptions of land use groups and risk exposure levels should be considered in the development review process.
Soils and Geologic Conditions Policy 1	The City should require soils and geologic review of development proposals to assess potential hazards relating to seismic activity, surface ruptures, liquefaction, landslides, mudslides, erosion and sedimentation.

Relevant Policy	Description
Soils and Geologic Conditions Policy 3	In areas susceptible to erosion, appropriate control measures should be required in conjunction with proposed development.
Soils and Geologic Conditions Policy 6	Development in areas subject to soils and geologic hazards should incorporate adequate mitigation measures.
Soils and Geologic Conditions Policy 8	Developments proposed within areas of potential geological hazards should not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties.
Earthquake Policies 3	The City should only approve new development in areas of identified seismic hazard if such hazard can be appropriately mitigated.
Earthquake Policies 5	The City should continue to require geotechnical studies for development proposals; such studies should determine the actual extent of seismic hazards, optimum location for structures, the advisability of special structural requirements, and the feasibility and desirability of a proposed facility in a specified location.
City of San Jose: Alviso Master Plan – A Specific Plan For The Alviso Community	
Community Character Policy 2	New developments should have architectural and landscaping qualities that maintain the “seaside” qualities of Alviso.
Industrial/Non-Industrial Relationships Objective	Setbacks and buffers should be established to protect environmental resources (e.g., Coyote Creek) and “sensitive uses” (e.g., residential, day care, and school uses) from potential negative impacts of industrial use.
Industrial/Non-Industrial Relationships Policy 2	The Light Industrial areas located north of State Street and adjacent to Coyote Creek should mitigate potential negative environmental impacts to nearby natural resources.
Environmental Protection Policy 1	All new parking, circulation, loading, outdoor storage, utility, and other similar activity areas must be located on paved surfaces with proper drainage to avoid potential pollutants from entering the groundwater, Guadalupe River, Coyote Creek, or San Francisco Bay.
Environmental Protection Policy 3	The riparian corridors adjacent to Coyote Creek and Guadalupe River should be preserved intact. Any development adjacent to the waterways should follow the City’s Riparian Corridor Policies.

Relevant Policy	Description
Environmental Protection Policy 5	To protect aquatic habitats that receive storm runoff, all new development must comply with adopted City Council policy entitled “Post-Construction Urban Runoff Management.”
Lands Outside of the Village Area Design Objective	Given the high visibility of most of this area, development should be attractive, should fit in the context of the larger community, and should reflect some of the elements and materials of seaside styles to contribute to Alviso’s sense of place.
Lands Outside of the Village Area Design Objective – Industrial Development Guidelines	Building heights may only exceed the 45-foot limit if they are located next to SR 237 and the additional height of the building (up to 90 feet) is coupled with preserved habitat areas on the northern portions of the site.
Landscaping Policy 3	Landscaping should be used to screen unattractive uses and soften the effect of taller buildings due to the flood protection requirements.
Storm Drainage Policy 1	All new development projects should be evaluated to determine the possible need for additional storm drainage facilities.
City of San Jose: Riparian Corridor Policy Study	
Guideline 1A: Orientation	Site activities should be oriented to draw activity away from the riparian corridor, for example, entrances, loading and delivery areas, noise generating activities and equipment, and activities requiring night lighting should be oriented toward non-riparian property edges.
Guideline 1C: Setback Areas	All buildings, other structures, impervious surfaces, outdoor activity areas, and ornamental landscaped areas should be separated a minimum of 100 feet from the edge of the riparian corridor (or top of bank, whichever is greater).
Guideline 2F: Noise	Noise producing stationary equipment should be located as far as necessary from riparian corridors to preclude exceeding the ambient noise level in the corridors.

Source: (Ex. 1, p. 4.5-3/5.)

The nearest residential use to the proposed project is the Cilker property that is located to the east/southwest of the LECEF site, as well as to then north in between the LECEF site and the WPCP sludge ponds. The Cilker property is used for row crop cultivation, and contains two residences, a fruit distribution company, a tractor/trucking storage yard, and an orchard/landscaping company

in the property's southern portion. The main residence is located near the intersection of Coyote Creek and Alviso Road. The Cilker property is designated Prime Farmland by the DOC. Other than the Cilker property, the nearest residential land is a mobile home park located approximately 700 feet south of SR 237 and west of Zanker Road, 0.6 miles from the LECEF site. Other residences are located 0.8 miles to the east and 1.4 miles to the southeast of the project site. The Alviso community is located approximately 1.8 miles to the northwest of the LECEF site. (4G, p. 28.)

Table 2 describes the land use designations within one mile of the proposed project site.

LAND USE Table 2
Land-Use Designations Within One Mile of the Site

Direction From Site	Land-Use Designation
North	Light Industrial and Public/Quasi Public
Northeast	Light-Industrial and Manufacturing and Warehousing (City of Milpitas)
East	Light-Industrial
Southeast	Light-Industrial and Manufacturing and Warehousing (City of Milpitas)
South	Highway Services and Public Park/Open Space
Southwest	Public/Quasi Public and Highway Services
West	Public/Quasi Public.
Northwest	Public/Quasi Public.

Source: (Ex. 1, p. 4.5-9.)

North of the site, lands are zoned Industrial (I) followed by Manufacturing (M-4). Eastward, across Coyote Creek, is the jurisdiction of the City of Milpitas, with the area primarily zoned for Industrial Park (MP) and General Commercial (C-2). Coyote Creek itself is within the jurisdiction of the City of San Jose, which has zoned it as Open Space (OS). South of the site, across SR 237, are a mixture of Agriculture (A), Manufacturing (M-1) and Highway Services (HS) lands. West of the site, lands are zoned as A (PD) and Manufacturing (M-1), followed by Agricultural (A). (Ex. 1, p. 4.5-9.)

a) USD and LECEF

LECEF is Phase 1 of the USD project.¹⁴⁴ In the final design, the USD campus is planned to be approximately 119-acres in size--to include the construction of several buildings totaling 2.242 million gross square feet of floor area. As currently planned, USD's campus would include:

- Internet data centers;
- co-location service providers;
- telecommunications facilities; and
- cross-connection facilities.

The number of people on the site would typically be low because the buildings on the USD campus area would primarily house equipment. As currently planned, it is estimated that there would be approximately 50 USD employees, 1,100 tenant employees and 400 visitors on the USD campus on a daily basis. At completion, USD is expected to use between 180-200 megawatts of power. (Ex. 1, p. 4.5-10.)

LECEF is planned to cover approximately 20-acres, and the landscaped access driveway area is planned to cover approximately 35-acres. LECEF would provide electric power, chilled water for cooling, and conditioned electric power for reliable operation of the data centers. An access drive and landscape features are proposed on adjacent land owned by the WPCP. As originally envisioned, USD's associated structures and facilities would completely surround the proposed LECEF project site and facilities. (Ex. 1, p. 4.5-10.)

Currently, the USD project has been pushed back due to deteriorating economic conditions and an oversupply of Internet information service campuses. Given

¹⁴⁴ Phase II would be LECEF's conversion to a combined cycle power plant by adding four Heat Recovery Steam Generators, two Steam Turbine Generators, and associated accessory equipment for a generation capacity of approximately 260 MW. Phase III would include the installation of equipment and systems for the planned Dataport "Super Hub" Server Farm, a 2.227 million gross square acre Internet data center. (Ex. 1, p. 4.5-10.)

an increase in demand, however, the USD project is still planned to move forward. (Ex. 1, p. 4.5-10.)

At the Evidentiary Hearing, Mr. George Sedgewick, who is president and a founder of the USD Company, offered public comment to the effect that the USD project is anywhere from 12 to 18 months behind schedule. Further, USD has obtained no financing or tenants, and the developer has not acquired site control.¹⁴⁵ Once construction begins, it will take anywhere from three to five years to completely build out the USD project (with approximately 500,000 square feet to be added per year). Initiation of construction, however, is contingent on an improved economic climate in the technology/telecommunications industry. (3/11/02 RT 29:7-46-22; Ex. 1, p. 4.5-8.)

b) Recreational Trails and Facilities

Regional recreational facilities in the area include:

- The 3,652-acre Don Edwards San Francisco Bay National Wildlife Refuge, located approximately 1.5 mile to the north of the site, and
- The Alviso Marina County Park (approximately 28 total acres) located less than one-mile northwest of the site on the East Side of the Guadalupe River. (Ex. 1, p. 4.5-14.)

¹⁴⁵ USD would be constructed on the Cilker property (66.5-acres) sits to the east/southeast of the proposed site, bounded by Coyote Creek. The Cilker property is currently being used to cultivate row crops, and contains two residences, a fruit distribution company, a tractor/trucking storage yard, and an orchard/landscaping company in the southern portion of the property. The main residence, a single family home, is located near the intersection of Coyote Creek and Alviso Road. The Cilker property remains Prime Farmland, and would not be affected by the proposed LECEF project. Currently the Cilker property is under contract for sale to USD. If purchased for the USD project, the Cilker property would be converted to Light Industrial uses when the USD project is completed. The loss of Prime Farmland resulting from the conversion of the Cilker Property to industrial uses has already been evaluated by the USD Planned Development Zoning Environmental Impact Report, of which we have taken official notice. However, the Cilker property contract is undergoing revisions with a completion date expected in several months. The revisions would give USD an extension (18-24 month) to exercise its right to purchase the property. Eventual purchase of the property would be dependent on an increased leasing demand for USD services that would instigate the construction phase of USD. (Ex. 1, p. 4.5-8; see Appendix E.)

Recreational trails cross through the general project area (bicycle, pedestrian, and equestrian). A description of the primary recreational trails and pathways is provided below.

1. Juan Bautista de Anza National Historic Trail

In August 1990 the U.S. Congress added the Juan Bautista de Anza National Historic Trail to the National Trail System, which is a federal network of trails that follow and commemorate original trails or routes of travel of national historical significance (Santa Clara County Trails Master Plan Update, 1995). The Juan Bautista de Anza trail is planned to cross along the northern border of the USD project site. Due to the proximity of the Juan Bautista de Anza trail, Staff concluded that it could potentially be impacted by the development of the LECEF and the USD projects (refer ahead to our Cumulative Impacts analysis). (Ex. 1, p. 4.5-13.)

The Juan Bautista de Anza trail follows the route taken by its namesake when he led a group of Spanish colonists on a 1,800-mile trek from Sinaloa, Mexico to the San Francisco Bay Area, establishing an overland route into Alta (Upper) California. The approved historic trail encompasses 1,210 miles of the total 1,849-mile route. The trail corridor, defined by historical records and archaeological evidence, varies in width, depending on terrain and details of the documented evidence. While many segments are on private land and therefore unavailable to the public, it passes through a variety of federal lands and includes more than 160 miles under the jurisdiction of the National Park Service, Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service, and the U.S. Department of Defense. (Ex. 1, p. 4.5-13.)

In the LECEF proposed project area, the Anza Trail passes from Sunnyvale east into the Alviso Historic District, loops from the Alviso Marina through the National Wildlife Refuge, and follows Grand Avenue to the Environmental Education

Center for the wildlife refuge. The Anza Trail then travels south and east from the wildlife refuge along Los Esteros Road to Zanker Road before passing east to Coyote Creek along the northern border of the proposed USD project site, where it would join the sub-regional Coyote Creek/Llages Creek Trail and the proposed San Francisco Bay Trail on a northerly path. (Ex. 1, p. 4.5-13.)

2. The San Francisco Bay Trail

Senate Bill 100, passed in 1987, initiated regional planning for a network of recreational trails encircling San Francisco Bay. The San Francisco Bay Trail (Bay Trail) is intended to provide easily accessible recreational opportunities for hikers, joggers, bicyclists and skaters, as well as a beautiful setting for viewing wildlife and learning about the Bay's natural environment. The Bay Trail is planned to cross along the northern border of the USD project site. Due to the proximity of the Bay Trail, it could potentially be impacted by the development of LECEF and the USD project (please refer ahead to Cumulative Impacts analysis). (Ex. 1, p. 4.5-12.)

The enabling legislation mandated that the Bay Trail would:

- Provide connections to existing park and recreation facilities;
- Create links to existing and proposed transportation facilities;
- Avoid adverse effects on environmentally sensitive areas by incorporating careful planning techniques. (Ex. 1, p. 4.5-13.)

In coordination with a planning committee comprised of 34 local elected officials and representatives of business, labor, community organizations, and other regional agencies, ABAG developed the Bay Trail Plan, which was adopted by ABAG's Executive Board in June 1989.¹⁴⁶ The Bay Trail Plan proposes an

¹⁴⁶ Typically, associations of governments develop regional goals and policies by considering the applicable land use development plans of the jurisdictions within their region. The State and federal governments have designated the Association of Bay Area Governments (ABAG) as the official comprehensive planning agency for the Bay Area. ABAG's region includes Alameda,

alignment for the 400-mile-long trail network that consists of spine trails, spur trails, and connector trails. The Bay Trail Plan contains policies to guide selections of the trail route and implementation of the trail system. Policies fall into five categories, as follows:

- Trail alignment policies reflect the goals of the Bay Trail program - to develop a continuous trail which highlights the wide variety of recreational and interpretive experiences offered by the diverse bay environment and is situated as close as feasible to the shoreline, within the constraints defined by other policies of the plan.
- Trail design policies underscore the importance of creating a trail which is accessible to the widest possible *range* of trail users and which is designed to respect the natural or built environments through which it passes. Minimum design guidelines for trail development are recommended for application by implementing agencies.
- Environmental protection policies underscore the importance of the San Francisco Bay's natural environment and define the relationship of the proposed trail to sensitive natural environments such as wetlands.
- Transportation access policies reflect the need for bicycle and pedestrian access on Bay Area toll bridges, in order to create a continuous trail and to permit cross-bay connections as alternative trail routes.
- Implementation policies define a structure for successful implementation of the Bay Trail, including mechanisms for continuing trail advocacy, oversight and management. (Ex. 1, p. 4.5-12.)

In the LECEF proposed project area, the Bay Trail is planned to share a trail alignment with the Juan Bautista National Historic Trail as it travels south and east from the wildlife refuge along Los Esteros Road to Zanker Road before passing east to Coyote Creek along the northern border of the proposed USD project site, where it would join the sub-regional Coyote Creek/Llages Creek Trail

Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. The ABAG Regional Plan provides a policy guide for local development, which includes goals and policies, focused on natural resource protection and management. The policy guide includes specific direction for the conservation of ecological resources by encouraging comprehensive land-use planning, establishment of land trusts, purchase of conservation easements and open space, and development of environmentally friendly land uses. ABAG's policies also encourage the preservation of agricultural resources by delineating urban growth boundaries and buffer zones, and protection of agricultural production zones and the agricultural land market. (Ex. 1, p. 4.5-1.)

on a route to the north. The San Jose City Council is requiring USD to record a 22-foot easement for the Bay Trail along the northern boundary of USD as a condition of zoning approval. (Ex. 1, p. 4.5-12.)

The Bay Trail project is currently undergoing environmental review and public outreach by the City of San Jose, and is projected to be implemented within the next several years. The City is currently completing the Master Plan for the Bay Trail alignment through San Jose and it should be adopted in a few months. According to the City, the Bay Trail:

[W]ill be an integral part of the Scenic Routes and Trails network within San Jose, and any possible visual impacts to the trail or viewshed from the trail needs to be evaluated for consistency with the Scenic Routes and Trails goals of the San Jose 2020 General Plan. (Ex. 1, p. 4.5-12.)

As stated above, the City of San Jose is currently working with USD about the possible construction of an east-west transect of the Bay Trail along the northern portion of the site, connecting Coyote Creek to Zanker Road, although currently there is no timeframe for when this transect would be completed. The Bay Trail is also proposed to run along both the east and west sides of Coyote Creek, with the trail running along the top of the levees, immediately north of SR 237. There is no current funding or timeframe for the western branch of the Bay Trail project's construction.¹⁴⁷ (Exs. 1A, p. 4.5-1; 1, p. 4-5-13.)

According to the City of San Jose, there is no official trail along the western levee of Coyote Creek, but recreationists use it as a bicycle route. The proposed Bay Trail on the levee is in no way connected to the USD project. (Ex. 1, p. 4.5-13.)

¹⁴⁷ The City of Milpitas has acquired funding for the eastern branch of the Bay Trail (which will serve as the route for the Juan Bautista de Anza National Historic Trail in the area). Funding was obtained from the ABAG, and Milpitas is in the design phase of the project with construction anticipated to begin in 2002. (Ex. 1A, p. 4.5-13.)

3. Coyote Creek/Llagas Creek Trail

The Coyote Creek/Llagas Creek Trail, a sub-regional trail route, is planned, approximately 750 feet east of the proposed LECEF project site, on the west Coyote Creek levee. According to the County of Santa Clara Trails Master Plan, sub-regional trail routes are those that:

- Provide regional recreation and transportation benefits such as linking rail stations, bus routes and/or park-and-ride facilities.
- Provide for continuity between city trails.
- Provide convenient, long-distance trail loop opportunities by directly linking two or more regional trails to create an urban trail network.

According to the City of San Jose's General Plan--Scenic Routes and Trails Diagram--the Coyote Creek corridor is designated as a Trails and Pathways Corridor, which makes adjacent properties subject to the City's Trails and Pathways Policy #1, as shown above in **Table 1**. (Ex. 1, p. 4.5-13.)

4. Bicycle Paths

According to the City of San Jose's General Plan--Transportation Bicycle Network Diagram--and the City Department of Transportation, a bicycle lane is approximately 700 feet from the LECEF proposed site. Currently, it runs along the north side of SR 237, between Zanker Road and Coyote Creek. The bicycle trail runs along the north side of SR 237, east of Zanker Road. Under the community of Alviso's Master Plan, Zanker Road is planned to have a bicycle lane added when the roadway is improved to full City of San Jose standards. In addition, a Proposed Connection to Coyote Creek route has been suggested in the northern vicinity of the proposed LECEF site. A bicycle path runs along Coyote Creek south of SR 237 but does not currently run along Coyote Creek north of SR 237, although such a route is proposed. (Ex. 1, p. 4.5-13.)

Linear Facilities

The linear facilities for the proposed project would not extend far beyond the boundaries of the proposed LECEF project site. Several proposed linear facilities and alternative routes would cross WPCP buffer lands to the west of the proposed project, as far as Zanker Road, approximately 2000 feet from the proposed project.¹⁴⁸ WPCP is operated and maintained by the City and is zoned Agriculture (Planned Development). Stormwater would be collected on site and then periodically discharged via a 750-foot drain that would connect to an existing 20-inch diameter flood control pipeline located east of the project and adjacent to Coyote Creek. (Ex. 1, p. 4.5-7/8.)

PG&E's planned Los Esteros Substation will not be built to coincide with the proposed project. Therefore, Applicant has stated its preference for PG&E to advance its construction schedule to inter-connect the LECEF with the Nortech-Trimble 115 kV line located at the intersection of Zanker Road and SR 237. For this interconnection to occur Applicant is required to obtain easements for the transmission line right-of-way from the City of San Jose; Applicant is negotiating with the City of San Jose to obtain those easements.¹⁴⁹ (Applicant Reply Brief, p. 17; 3/11/02 RT 91:16-93:14.)

Natural gas would be supplied via a new 550-foot, 10-inch-diameter pipeline that would connect to existing PG&E lines 101 and 109, directly south of the project. These lines are currently located parallel to SR 237 and are within Applicant controlled property. (Ex. 1, p. 4.5-7.)

¹⁴⁸ A 2,700-foot, 12 to 15-inch pipeline would return plant wastewater and sewer discharges to the WPCP. The pipeline, which would be routed south then west of the project, would connect to one of two existing sewer lines (either 60 or 80-inch lines) located at Zanker Road. Plant processing water would be supplied by the WPCP through the South Bay Water Recycling program. A 1,000-foot pipeline would be routed south then west to connect with an existing South Bay Water Recycling pipeline located parallel to SR 237. (Ex. 1, p. 4.5-7; see our discussion under the topic of **Soil and Water Resources**.)

¹⁴⁹ See our section on **Transmission System Engineering**.

Staff has reported that the CEC has received assurances from the City of San Jose that the LECEF project is properly zoned for the uses and facilities specified in the AFC. These uses include the proposed linear facilities that would cross the City-operated WPCP lands. (Ex. 1, p. 4.5-7.)

Impacts

In its testimony at the Evidentiary Hearing, Staff stated that it found no impacts to land use. (3/11/02 RT 329:16-330-19.) Staff's findings are summarized in Table 3 below:

**LAND USE TABLE 3
NO IMPACTS SUMMARY**

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
LAND USE – Would the project:				
a) Physically divide an established community?			X	
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
d) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
e) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				X
f) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
g) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
LAND USE – Would the project:				
h) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

Source: (Ex. 1, p. 4.5-15.)

Cumulative Impacts

Cumulative impacts may be caused if a proposed project would have effects that are individually limited but cumulatively considerable when viewed together with the effects of related projects. (Ex. 1, p. 4.5-23.)

The City of San Jose’s General Plan--*Trails and Pathways Policy No. 1* specifies that:

[N]ew development adjacent to the Trails and Pathways should not compromise safe trail access nor detract from the scenic and aesthetic qualities of the corridor.¹⁵⁰

Visual resources staff determined that, even after mitigation, the LECEF project without the USD project would still “detract somewhat from the scenic and aesthetic qualities of the corridor.” (Ex. 1A, p. 4.5-2.)

The City of San Jose’s staff has stated to the CEC that the General Plan policy should be interpreted such that only a substantial or significant impact to the scenic qualities of the corridor would result in noncompliance. Staff views the residual detracting from the scenic and aesthetic qualities of the trail corridor as less than significant. Hence, when coupled with the visual resources mitigation provided by Staff, the LECEF project (with or without USD) would be compliant

¹⁵⁰ Refer to **LAND USE Tables 1** above & **Table 4** below. See also our section on **Visual Resources**.

with the City's *Trails and Pathways Policy No. 1* and would not result in a significant cumulative impact. (Ex. 1A, p. 4.5-2.)

In addition, Staff concluded that the proposed project does not make a significant contribution to regional impacts related to new development and growth, such as:

- Population in-migration,
- Increased demand for public services,
- Expansion of public infrastructure, or
- Loss of open space. (Ex. 1A, p. 4.5-3.)

Staff further concluded that there are no significant cumulative land use impacts associated with the proposed project because

- the proposed project's contribution to land use impacts resulting from past, present, and probable future projects is not expected to be cumulatively considerable; and
- the proposed project is consistent with the long-term plans of the City of San Jose, and would not contribute to a cumulatively significant impact to the City's goals and plans for the area. (Ex. 1, p. 4.5-25; see **LAND USE Table 4**, below for Staff's survey of reasonably foreseeable development projects.)

LAND USE Table 4
Reasonably Foreseeable Development Projects

Development	Size	Location	Jurisdiction	Status
San Francisco Bay Trail (planned)	A 400-mile, multi-agency regional trail organized by local agencies and the Association of Bay Area Governments.	An east-west transect is planned along the northern border of the USD project (the current Cilker	City of San Jose	The City is in the final stages of developing a Master Plan for the trail, and the plan's approval is expected within the next several months. The Master Plan is currently undergoing environmental review and public outreach. The City has negotiated easements with USD, and USD has agreed to install and maintain the east-

Development	Size	Location	Jurisdiction	Status
		property), along with a route heading north on the west levee of Coyote Creek.		west transect of the trail. However no schedule has been established for this transect since the USD project is currently on hold, due to fluctuating economic conditions.
Coyote Creek/Llagas Trail (planned)	A sub-regional trail meant to connect local and regional trails.	A segment is planned north of SR 237, on the west levee of Coyote Creek.	City of San Jose	Planned trail specified in 2020 General Plan although no current funding is available for construction.
San Juan Bautista National Historic Trail (planned)	A 1200-mile regional trail that traces San Juan Bautista's historic travels through California.	The historic trail would share an alignment with the Bay Trail along Los Esteros and Zanker Road, across to the Coyote Creek corridor before heading north.	City of San Jose	Will share alignment with the San Francisco Bay Trail, when constructed.
Zanker Road Bicycle Path (planned)	Local bicycle path that would increase the bicycle path system within Alviso.	Along Zanker Road, between Los Esteros Road and SR 237	City of San Jose	A bicycle path will be added when the road is improved by the Department of Transportation.
U.S Dataport Industrial Campus	2.227 million square feet	Surrounding LECEF, on the former Lin-Hom and Cilker	City of San Jose	Approved by the City of San Jose. LECEF is planned as Phase I of the three-phase USD project. Construction of USD has been pushed back due to

Development	Size	Location	Jurisdiction	Status
		Properties, near the intersection of Zanker Rd. and SR 237.		fluctuating economic conditions, although managers still hope construction will begin by midyear 2002. Construction schedules would depend on leasing demand, but under ideal conditions the project would be completed in 3-5 years, with 500,000 square feet added each year. Individual leases would take approximately 12 months to construct, with approximately 4 months going to planning and 8 months to actual construction.
Pacific Gas and Electric Los Esteros Substation	7.3-mile transmission line 24-acre substation and upgrades	Located directly north of LECEF	California Public Utilities Commission	Approved by the California Public Utilities Commission, but construction has not begun.
Metcalf Energy Center Power Plant	600 r plant	Approximately eight miles from LECEF, in the Coyote Valley Industrial Park	California Energy Commission	Approved by the CEC and construction has begun.
Spartan Energy Center	96 megawatt power plant	Approximately 11 miles from LECEF, at 1980 South 7 th Street, San Jose	California Energy Commission	Application filed and in review by the California Energy Commission. No schedule is available.
Palm Corporation Industrial Campus	1.2 million sq. ft. office space	One mile west of LECEF, south of SR 237, east of First Street	City of San Jose	Project has been approved but is currently on hold
Cisco Systems Industrial Campus	2 million sq. ft. office space	One mile west of LECEF,	City of San Jose	Two of ten buildings have been built but the project is currently on hold.

Development	Size	Location	Jurisdiction	Status
		north of SR 237, on both sides of First Street		
Irvine Company Apartment Complex	2,400-unit	One mile south of LECEF	City of San Jose	Construction has begun.
Power Plant (Proposed)	500+ MW Power Plant	Located near LECEF on WPCP lands	City of San Jose	San Jose City Manager released Request For Proposal (RFP) in September 2001 for the construction of a 500+ MW power plant on WPCP lands.
Veritas Software Industrial Campus	990,000 sq. ft. office space	Less than one mile from LECEF, north of State Route 237, southwest of McCarthy Boulevard	City of Milpitas	Construction of 3 of the planned 6 buildings is near completion. As of November 2001, Veritas has told the City of Milpitas that only 1 building will be occupied in the immediate future.
Irvine Company Business Park	1 million sq. ft. business park	Less than one mile from the project site, north of State Route 237 and northeast of McCarthy Boulevard	City of Milpitas	Construction is in the advanced stages but a completion date is not available.
Peery and Arrillaga Company Office Park Development	400,000 sq. ft. of office space, with potential for some residential use.	Less than two miles from LECEF, in Tasman area, south of SR 237 and west of I 880.	City of Milpitas	Construction is about completed but there is no timeline on when the buildings will become occupied.
High and	High and	Southeast of	City of	The City of Milpitas is studying

Development	Size	Location	Jurisdiction	Status
Medium Residential Development	medium residential developments, with a mixture of office uses	SR 237, east of I 880	Milpitas	the conversion of some zoning designations in this area to allow for mixed development. Potential adoption of the plan is scheduled for March 2002. At the maximum extent, up to 4,800 new residential units could be created in the next 20 years, although currently no accurate estimates are available.
Hotel	100 unit hotel	Several miles from LECEF, south of SR 237, west of Cypress Drive	City of Milpitas	Construction is almost complete.
Source: AFC, City of San Jose Planning Department (Crabtree, 2001b; Eastman, 2001a,b), City of San Jose Department of Transportation (Tripousis, 2001), and the City of Milpitas Planning Department (Burkey, 2001).				

Source: (Ex. 1, p. 4.5-23/24.)

COMMISSION DISCUSSION

Based upon our review of the record, the Committee is persuaded that the required land use actions have been taken by the City of San Jose to support the proposed project notwithstanding Mr. Garbett's protestations to the contrary. We observe that Mr. Garbett's frustrations are related directed to the City's processes related to public notice requirements. Whatever the merit of Mr. Garbett's position on the City's observation of proper notice, those actions are uniquely within the province of the City of San Jose. The Energy Commission's province lies strictly within the regulatory procedures providing for the proper environmental review and certification of power plant facilities within its statutory jurisdiction.

In that regard, we do have one concern in the area of land use. We noted in our earlier sections that Applicant is in need of an easement from the City of San Jose. In particular, the easement would allow for the transmission line right-of-way, which Applicant needs for its potential temporary connection to the PG&E-controlled grid. We understand that Applicant is negotiating with the City of San Jose to obtain the required easement. (Applicant Reply Brief, p. 17; 3/11/02 RT 91:16-93:14; 5/20/02 RT 221:5-222:5.)

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The City of San Jose has approved a revised Planned Development Zoning (PDZ) specifically for the LECEF project.
2. Sensitive receptors are located within 1.5 miles of the LECEF project in all directions, north, south, east and west.
3. The LECEF and its related facilities are permissible uses under the applicable City of San Jose zoning designations.
4. Construction and operation of the LECEF will not create conflicts with existing or planned land uses in the project vicinity.
5. Applicant is negotiating with the City of San Jose to obtain easements for the transmission line right-of-ways required for construction of the temporary tap-line interconnect to PG&E.
6. No significant or adverse impact will result to agricultural or residential property affected by the LECEF.

We therefore conclude that the LECEF will not create any significant direct or indirect adverse land use impacts. Given that there are no significant land use impacts, no conditions of certification have been proposed.

B. NOISE

The construction and operation of any power plant creates noise, or unwanted sound. Several factors combine to determine whether a proposed project will meet applicable noise control laws and ordinances or whether it will create significant adverse impacts. These factors include: the character and the loudness of the noise, the times of day or night during which it is produced, and the proximity of the facility to sensitive receptors. In this portion of the Decision, we examine the likely noise impacts from the LECEF and the sufficiency of measures proposed to control them.

SUMMARY OF THE EVIDENCE

The project site sits within the USD Planned Development Zoning (USD- PDZ) parcel. When fully built-out, the USD facility will surround the LECEF with groups of industrial buildings, parking, landscaping, and developed open space; USD buildings alone will generally surround the proposed project. However, work on the USD facility has not yet begun and the LECEF site now is surrounded by undeveloped land. Because development of the USD buildings may take many years to complete, Staff's analysis portrays noise impacts that would occur without USD buildings.¹⁵¹ (Ex. 1, pp. 4.6-6/10.)

Potential sensitive receptors to the south, across SR 237, are two industrial sites (KLA Tencor and Quantum) and the Valley Transit Authority bus yard. Approximately 600 feet from the eastern edge of the LECEF site is a temporary mobile home park; the Cilker family property, which is occupied by two or three residences lies approximately 800 feet from the southeastern corner of the LECEF site. (Cf. Ex. 1, p. 4.6-6 & 4G, p. 28.) The mobile home park and Cilker residences (a landscaped yard surrounds the

¹⁵¹ The LECEF would occupy approximately 15 acres of a 55 acre site north of Highway 237 (SR-237) near Coyote Creek, within three parcels recently annexed by the City of San Jose. West of the site are the San Jose/Santa Clara Water Pollution Control Plant (WPCP) and the associated WPCP sludge drying ponds. WPCP buffer land adjacent to Zanker Road is to the west. The Coyote Creek Flood Control Project and riparian corridor are approximately 750 feet east of the proposed power plant. The north San Jose community of Alviso is located approximately 1.8 miles to the northwest of the LECEF site. (Exs. 1, p. 4.6-6; 3E, p. 12; 4G, p. 28.)

main Cilker home) would be sensitive to noise; the Cilker homes are located within the USD parcel. These homes are currently the nearest locations where project sound is likely to be perceived. (Ex. 1, p. 4.6-6.)

Staff's reference composite noise levels for construction activities and the results of the independent staff assessment of noise levels at the nearest residences are summarized in below in **Table 1**.

NOISE SUPPLEMENT: Table 1
Construction Noise Levels at Nearest Residences

Construction Activity	Reference Composite Noise Level (at 50 feet)	Applicant's-Predicted L_{eq} (at 2390 feet)	Applicant's-Predicted L_{eq} (at 3420 feet)	Staff-Predicted L_{eq} Location 5 (at 3200 feet)	Staff-Predicted L_{eq} Location 7 (at 800 feet)
Site Clearing/Excavation	89	55	50	53	65
Concrete Pouring	78	51	46	42	54
Steel Erection	87	55	50	51	63
Mechanical	87	50	45	51	63
Clean-Up	89	45	40	53	65
Pile Driving	104			68	80
Ambient Average Noise Level (L_{eq})				56	Estd. 53
Ambient Nighttime Noise Level (L_{90})				49	Estd. 45
Maximum Project+Ambient Nighttime Noise Level w/o Pile Driving				54	65
Maximum Project+Ambient Nighttime Noise Level w/ Pile Driving				68	80

Sources:

Reference Composite Noise Level at 50 feet: AFC Table 8.5-15 and Table 8.5-17.

Applicant's Predicted L_{eq} : Data Request Response Set 1, Table NO-39, 11/5/01.

Staff-Predicted L_{eq} : Independent assessment accounting only for attenuation of sound levels through divergence over distance.

Ambient Noise Levels for Location 5 from Data Request Response Set 1, DR #37, 11/5/01.

Ambient Noise Levels for Location 7 from independent staff assessment described in Staff Assessment.

Notes: Locations 5 and 7 defined in Staff Assessment: 3200 feet is distance of mobile home park; 800 feet is distance of main Cilker home.

Source: (Ex. 1G, p. 9.)

The predicted noise levels are conservatively high because they do not take into account attenuation of noise by obstructions or absorption of sound by soft ground surfaces. These estimates are based on hard ground surfaces and unobstructed lines of sight between the residences and the construction site. The only attenuating mechanism considered was divergence of the sound waves over the distances traveled. (Ex. 1G, p. 9.)

Heavy equipment operation during any phase of construction would increase nighttime noise levels at the residential locations. **Table 1** shows that during the most quiet nighttime conditions, project-plus-ambient nighttime noise levels at the mobile home park, without pile driving, would be approximately 5 dBA higher than the ambient conditions without nighttime construction. Because this impact would be short-term during only the construction phase of the project (anticipated 4 to 6 months under the expedited schedule) and would not substantially exceed the Energy Commission 5 dBA criteria that is usually used for routine operation of the plant (see Staff Assessment p. 4.6-4), the impact to the mobile home park would not be considered significant. (Ex. 1G, p. 9.)

At the main Cilker home, heavy equipment operation, excluding pile driving, would dominate nighttime noise levels, especially at the portions of the Cilker property facing the construction activity. Without restricting nighttime construction activity, this impact would be considered significant and additional measures would be necessary to reduce the impact. As a means of minimizing nighttime noise impacts to the residents of the Cilker property, Staff recommended that Applicant provide temporary relocation and housing for the occupants of the Cilker home during the construction phases. We adopt this recommendation. (Ex. 1G, p. 9; Condition **NOISE-6**.)

Pile driving during nighttime hours would substantially increase noise levels over the quietest ambient nighttime conditions. At the nearby residential locations, pile-driving noise at night would dominate nighttime conditions. At the mobile home park, the nighttime noise levels with pile driving would be within the range of ambient levels that routinely occur in the daytime but these levels would be more than 15 dBA over the most quiet nighttime conditions. As in the Staff Assessment (see p. 4.6-11) and the Supplemental Testimony (p. 4.6-4), Staff continues to recommend that pile driving be performed only during daytime hours in order to minimize annoyance to the mobile home park residents. We have adopted this recommendation. (Ex. 1G, p. 9; Condition **NOISE-6**.)

The City of San Jose's Zoning Ordinance includes performance standards for noise transmitted between properties.¹⁵² The performance standards specify the amount of allowable noise to occur at the property line of an adjacent sensitive use. The LECEF is located on land designated as Planned Development Zoning (PDZ) with the base district zoning of the property defined as agricultural. The maximum noise levels allowed for uses in Agricultural Districts without a conditional use permit, (measured at the adjacent property line): are as follows:

- 55 decibels adjacent to a property used or zoned for residential purposes;
- 60 decibels adjacent to a property used or zoned for commercial purposes;
- 70 decibels adjacent to a property used or zoned for industrial or use other than residential or commercial purposes. (San Jose Municipal Code § 20.20.300.)

Construction

Construction noise is a temporary phenomenon but construction of a major industrial facility such as a power plant would be expected to cause noise levels above those considered permissible by community policy. Although the San Jose Municipal Code does not regulate construction related noise, construction activities are commonly limited to certain hours of the day as a best management practice for noise.

In July 2000 and September 2001, Applicant commissioned ambient noise surveys for six locations. The noise surveys were conducted using Bruel & Kjaer sound level meters that meet the requirements of the American National Standards Institute (ANSI) for Type 1 sound level measurement systems. Existing noise levels were monitored at the Coyote Creek open space (Location 2), at the nearest residences outside of the USD parcel (Location 5), and at four other locations, as follows:

¹⁵² Title 20 of the San Jose Municipal Code.

1. Southern property line, bordering Highway 237 (SR-237);
2. East of project property line, bordering the Coyote Creek Riparian Corridor and the planned Coyote Creek/Llagas Creek Trail;
3. Northern property line, bordering the WPCP sludge drying ponds and the proposed San Francisco Bay Trail;
4. Western property line, west of Zanker Road, near the receiving entrance for the WPCP and across from the WPCP pump station;
5. Southwest (0.6 miles) of the project site, at the northern most edge of the mobile home park; and
6. Southeast (0.6 miles) of the project site, within the industrial properties of KLA Tencor and Quantum.¹⁵³ (Ex. 1, p. 4.6-6.)

Table 2 below summarizes the ambient noise measurement results.

NOISE, Table 2
Summary of Ambient Measured Noise Levels

Site ID	Location	Measurement Type	Sound Level, dBA		
			L _{dn}	Average Nighttime L _{eq}	Average Nighttime L ₉₀
1	Near SR-237	25-hour	69	60.2	51.8
2	Near Coyote Creek Corridor	25-hour	59	44.9	39.8
3	Northern Property Line	25-hour	58	45.6	41.0
4*	Western Property Line	18-hour*	69	61.9	59.1
5	Mobile Homes Across SR-237	25-hour	Estd. 62	50	49
6 **	Industrial Properties	Nighttime**	Estd. 60	51	47
7 ***	Main Cilker Home Near SR-237 and Coyote Creek	Extrapolated***	59	53	45

* Location 4 is based on an 18-hour nighttime measurement with afternoon hours missing. Actual L_{dn} may be slightly higher.

** Location 6 is based on short-term nighttime measurements (10-minutes in duration) taken generally before midnight. L_{dn} measurements are not available from the short-term data, but are estimated based on the measurements and typical suburban activity. The lowest observed L_{eq} and L₉₀ is shown here.

*** Location 7 was added by CEC staff to characterize conditions at the main Cilker home on the USD parcel. Conditions at this location are generally bounded by the conditions observed at Locations 1 and 2. Assuming average nighttime noise levels are dominated by the surrounding highways, the nighttime noise at Location 7 is taken to be the average of Locations 1 and 2. Assuming a lower existing condition is conservative because the main Cilker home is close to Highway 237 (where Location 1 is probably more representative).

Source: ((Ex. 1, p. 4.6-8.)

¹⁵³ CEC staff added a seventh location representing the main Cilker home within the USD parcel. Although noise surveys were not conducted at the Cilker residences, CEC staff reviewed data gathered at Locations 1 and 2 and determined that these data adequately represent upper and lower bounds of the existing noise levels at the main Cilker home. (Ex. 1, p. 4.6-7/8.)

Applicant identified five general phases of construction activities, from site clearing through plant fabrication and initial startup, as follows:

1. excavation;
2. concrete pouring;
3. steel erection;
4. mechanical; and
5. cleanup.

The most intense noise sources would occur during phase 1 (pile driving activities).¹⁵⁴ A variety of equipment would be used during each phase to include heavy earthmoving equipment, haul trucks, cranes, construction worker vehicles, pneumatic tools, and hammers. Applicant prepared analyses of construction noise impacts, listing the loudest equipment to be used in each phase and the predicted worst-case noise levels within 50 feet of equipment and at the residences across Highway 237 (Location 5). (Ex. 1, p. 4.6-10.)

Construction noise would be more intense at the Cilker homes. Predicted worst-case average hourly noise levels during each of the five phases would range from approximately 56 to 67 dBA at the main Cilker home and 58 to 69 dBA at the temporary mobile home park, without pile driving. Therefore, general construction noise at the Cilker homes at times would exceed the existing ambient noise levels by approximately 10 dBA. (Ex. 1, p. 4.6-16.)

Pile-driving noise and noise from construction of linear facilities would similarly be louder than existing ambient conditions, but as with all other construction activities,

¹⁵⁴ Pile driver noise is impulsive, consisting of repeated impacts of a trip hammer on the piling, and can be particularly annoying. The noise levels predicted for pile driving are best compared to the maximum noise levels observed in the ambient noise environment. The applicant specifically assessed the noise impact from pile driving, and found that at the residences across Highway 237 the noise levels would be similar to the noise levels created by existing traffic and other noise. Applicant has not proposed to mitigate the noise generated from pile driving. Because pile driving will produce a noise that can be particularly annoying at the nearest residential receptors, Staff proposed that pile driving be performed only during daytime hours in order to minimize annoyance to residents. (See Condition **NOISE-6** below). With this limitation, pile-driving noise should not cause a significant impact. (Ex. 1, p. 4.6-11.)

these would be of limited duration. The expected maximum noise level at the main Cilker home caused by pile driving would be approximately 80 dBA, and up to 82 dBA would occur at the temporary mobile home park. Because construction activities are of limited duration, and would be limited to daytime hours, construction noise impacts are considered less than significant. (Ex. 1, p. 4.6-16; see Conditions **NOISE-1**, **2**, and **6**.)

Except for pile driving, the predicted worst-case average-hourly-noise-levels during each of the five phases would range from approximately 46 to 57 dBA at the residences across Highway 237. This means that general construction noise at the nearest residential receptors would not exceed the existing ambient noise levels. Since the noise levels caused by general construction would not exceed existing ambient conditions, the cumulative effect on the nearest sensitive receptors would be less than significant. (Ex. 1, p. 4.6-10.)

Applicant anticipates that the noisiest construction activities will occur between the hours of 6:00 a.m. and 6:00 p.m. Monday through Saturday. Towards the end of project construction, certain critical construction activities associated with plant startup could continue 24 hours per day on any day of the week. Adhering to the daytime schedule and implementing further measures to ensure resolution of noise complaints would reduce any potential impacts. (Ex. 2, [Vol. 1], § 2.2.14; see Conditions **NOISE-1**, **2**, and **6**.)

Linear facilities include new off-site linear facilities in the form of new:

- electricity transmission lines;
- natural gas supply lines;
- water supply lines;
- stormwater drains;
- wastewater discharge lines; and
- road connections.

None of the new linear facilities would pass near occupied residential uses south of Highway 237, although the access roads and wastewater lines would require

construction near Zanker Road north of Highway 237. No other off-site facilities would be necessary. (Ex. 1, p. 4.6-11.)

Construction noise levels along the linear portions of the project would increase during this phase of construction. These increases would be perceptible, especially for residences near Zanker Road south of the highway and at the recreational facilities in the Coyote Creek corridor. However, because construction noise from linear facilities would be temporary and would be limited to daytime hours, the effects would not be significant. (Ex. 1, p. 4.6-11.)

Based upon the potential noise impacts of construction noise, Staff has recommended the inclusion of three conditions of certification to monitor and mitigate potential construction noise impacts. With these measures, Staff considers potential construction noise impacts to receptors in the LECEF project area to be less than significant. (See **NOISE-1, 2, and 6.**)

Operation

Typically, the startup and testing of a simple-cycle system does not cause substantially different noise from that caused by operation. No additional noise impacts would be caused during startup and testing beyond what is identified for operational noise below. During its operating life, the LECEF represents essentially a steady, continuous noise source, day and night. Occasional short-term increases in noise levels would occur during startup or shutdown as the plant transitions to and from steady-state operation. At other times, such as when the plant is shut down for maintenance, noise levels would decrease. The primary noise sources anticipated from the facility include the:

- air inlet to each combustion turbine,
- combustion turbine exhaust flues,
- water pumps,
- cooling tower exhausts, and
- transformers.

The noise emitted by power plants during normal operations is generally broadband, steady state in nature. (Ex. 1, p. 4.6-12.)

Applicant performed acoustical modeling calculations to predict the facility noise emissions and to identify design features that would reduce or attenuate equipment noise and these are presented below in **Tables 3** and **4**.

NOISE, Table 3
Summary of Predicted Nighttime Noise Levels

Measurement Sites	Nighttime Sound Level, dBA			Increase Caused by Project, dBA
	Ambient (L ₉₀)	Project (L _{eq})	Cumulative (L _{eq})	
1	51.8	52	54.9	+3.1
2	39.8	48	48.6	+8.8
3	41.0	46	47.2	+6.2
4	59.1	42	59.2	+0.1
5	49	39	49.4	+0.4
6	47	46	49.5	+2.5
7	45	43	47.1	+2.1
Based on AFC Table 8.5-12, with independent staff assessment for Location 7.				

Source: (Ex. 1, p. 4.6-12.)

NOISE, Table4
Summary of Predicted Day-Night Noise Levels

Measurement Sites	Sound Level, dBA			
	Ambient (L _{dn})	Project (L _{eq})	Cumulative (L _{dn})	San Jose General Plan Goal (L _{dn})
1	69	52	69	70 (industrial)
2	59	48	60	60 (parks)
3	58	46	59	60 (parks)
4	69	42	69	70 (industrial)
5	Estd. 62	39	62	55 (residential)
6	Estd. 60	46	61	60 (commercial)
7	59	43	59	55 (residential)
Based on AFC Table 8.5-12, with independent staff assessment for Location 7.				

Source: (Ex. 1, p. 4.6-13.)

The City of San Jose specifically maintains riparian-corridor noise policies that govern the amount of acceptable new noise affecting the Coyote Creek riparian corridor (Location 2). (Ex. 1, p. 4.6-13.) The riparian-corridor policies specify that noise increases may not exceed noise levels for open space as specified in the Noise

Element of the City of San Jose's General Plan or exceed background noise levels. However, the designation of the Coyote Creek riparian corridor as a public park means more stringent noise goals (60 Ldn) apply. Because only distant noise sources affect Location 2, background noise levels (59 Ldn ambient) currently are less than the noise levels permissible for public parks (60 Ldn). (Exs. 1, p. 4.6-13; 1A, p. 4.6-1.) **Tables 3 and 4** show that noise from the LECEF would exceed the background noise levels by one decibel, but would not exceed the City's goal of 60 Ldn and would not therefore be significant.¹⁵⁵

In addition, the riparian-corridor policies also specify that noise-generating activities should be oriented away from the riparian corridor. Because the LECEF project site plan includes a sound wall on the eastern and southern edges of the site and because cooling towers, the cooling water pump, and fuel gas compressor are located on the western portion of the site, the project site plan would conform to this policy. (Ex. 1, p. 4.6-13.)

The results of the modeling calculations, without assuming any additional noise controls, revealed that residential receptors at Location 5 would not experience noise from LECEF above the existing background noise levels due to their distance from LECEF across SR 237. Based upon all available information, Staff concluded that operation of the project would:

- comply with all LORS;
- cause no significant change in noise levels at any sensitive residential receptor;
- comply with cumulative noise levels at sensitive receptors;
- comply with the noise standards of the San Jose General Plan, except where existing conditions currently exceed the standards;

¹⁵⁵ For locations where background noise levels are below the noise levels permissible for open space, such as Location 2, Staff interpreted the City of San Jose riparian corridor noise policy to allow future noise up to but not exceeding the City's goal of 60 Ldn. Cumulative noise levels with the project would be equal to but would not exceed the City's goal. Staff concluded therefore that the project noise effects on the riparian corridor would be less than significant. (Ex. 1, p. 4.6-13.)

- cause no more than a 5 percent increase in dBA above the existing ambient noise level at sensitive receptors, where existing conditions currently exceed the standards; and
- create no significant effect on the local noise environment. (Ex. 1, p. 4.6-13.)

Finally, Staff concluded that as USD is built out, the new industrial buildings may be expected to shield sensitive receptors from LECEF noise, and that the Conditions would ensure that noise effects are reduced to a less than significant level. (See Conditions **NOISE-2** and **4**.)

FINDINGS AND CONCLUSIONS

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. Construction and operation activities of the proposed project will create noise.
2. The sensitive noise receptors nearest the proposed project are approximately 600 and 800 feet, respectively.
3. Construction activities associated with the project will be temporary in nature.
4. To the extent analyzed, construction and operation noise from the project will be within acceptable limits of City of San Jose noise standards and will be attenuated by the Conditions of Certification.
5. Construction and operational noise from the power plant, with the exception of the Cilker residences, will generally not increase the existing ambient noise levels experienced at the nearest sensitive receptors nor result in any significant adverse impacts to the environment or public health.
6. Applicant will implement a noise complaint program for area residents to provide for mitigation of any exposure to high noise levels during construction and operation.

We conclude that the proposed project will not create any significant direct, indirect, or cumulative adverse noise impacts.

CONDITIONS OF CERTIFICATION

PRE-CONSTRUCTION NOTICE & CONSTRUCTION NOISE COMPLAINT HOTLINE

NOISE-1: At least 15 days prior to the start of ground disturbance, the project owner shall notify all residents within one-half mile of the site, including the City of San Jose and the Santa Clara Valley Water District, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: The project owner shall transmit to the Energy Commission Compliance Project Manager (CPM) in the first Monthly Construction Report following the start of ground disturbance, a statement, signed by the project manager, attesting that the above notification has been performed, and describing the method of that notification. This statement shall also attest that the telephone number has been established and posted at the site.

OPERATION NOISE COMPLAINT PROCESS

NOISE-2: Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

- use the Noise Complaint Resolution Form (below), or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- attempt to contact the person(s) making the noise complaint within 24 hours;
- conduct an investigation to determine the source of noise related to the complaint;
- if the noise is project related, take all feasible measures to reduce the noise at its source; and
- submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to the complainant's satisfaction.

Verification: Within five days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the local jurisdiction, and with the CPM, documenting

the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a three-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

NOISE CONTROL PROGRAM

NOISE-3: Prior to the start of ground disturbance, the project owner shall submit to the CPM for review a noise control program. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal-OSHA standards.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall submit to the CPM the above-referenced program. The project owner shall make the program available to OSHA upon request.

NOISE RESTRICTIONS

NOISE-4: The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause resultant noise levels to exceed the ambient average nighttime noise levels (L_{90}) at the main Cilker home by more than 5 dBA, and that the noise due to plant operations will comply with the noise standards of the City of San Jose public park policies (LORS) at Location 2 (60 Ldn). The closest permanent residential receptor is the landscaped yard of the main Cilker home if this property is not under the control of the project owner or U.S. Dataport. If this property is under the control of the project owner or U.S. Dataport, compliance is not required at the Cilker home.

No new pure tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints.

Protocol:

- A. Prior to initiating construction, the project owner shall conduct a 25-hour community noise survey at the main Cilker home to determine the ambient noise levels, if appropriate based on the above discussion.
- B. Within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct short-term survey noise measurements at the Coyote Creek riparian corridor. The short-term noise measurements shall be conducted during both daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) periods. In addition, the project owner shall conduct a 25-hour community noise survey at the main Cilker home, if appropriate. The survey during power

plant operations shall also include measurement of one-third octave band sound pressure levels at each of the above locations to ensure that no new pure-tone noise components have been introduced.

- C. If the results from the pre-construction and operational noise surveys indicate that the average nighttime (10 p.m. to 5 a.m.) background noise level (L_{90}) at the main Cilker home has increased due to power plant noise by more than 5 dBA, or that the noise standards of 60 Ldn have been exceeded at the Coyote Creek riparian corridor, mitigation measures shall be implemented to reduce noise to a level of compliance with these limits. Subject to CPM approval, mitigation measures at the Cilker home may include acoustical improvements such as sound rated windows and solid core exterior doors.
- D. If the results from the pre-construction and operational noise surveys indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: Within 15 days after completing the post-construction survey, the project owner shall submit a summary report of the survey to the local jurisdiction, and to the CPM. Included in the post-construction survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. Within 15 days of implementation of the mitigation measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

OCCUPATIONAL NOISE HAZARDS

NOISE-5: Within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

Verification: Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

CONSTRUCTION TIME RESTRICTIONS

NOISE-6: Noise due to pile driving shall be restricted to the times of day delineated below:

Any Day 8 a.m. to 5 p.m.

Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

Relocation assistance and temporary housing in a nearby extended-stay hotel, or other similarly-furnished dwelling, shall be made available to any occupant of the main Cilker home during construction activities, if requested by the occupants. If the Cilker property is under the control of the project owner or U.S. Dataport, relocation assistance and temporary housing need not be provided.

Verification: The project owner shall transmit to the CPM in the first Monthly Compliance Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

EXHIBIT 1 - NOISE COMPLAINT RESOLUTION FORM

Los Esteros Critical Energy Facility Project (01-AFC-12)		
NOISE COMPLAINT LOG NUMBER _____		
Complainant's name and address: 		
Phone number: _____		
Date complaint received: _____ Time complaint received: _____		
Nature of noise complaint: 		
Definition of problem after investigation by plant personnel: 		
Date complainant first contacted: _____		
Initial noise levels at 3 feet from noise source: _____	dBA	Date: _____
Initial noise levels at complainant's property: _____	dBA	Date: _____
Final noise levels at 3 feet from noise source: _____	dBA	Date: _____
Final noise levels at complainant's property: _____	dBA	Date: _____
Description of corrective measures taken: 		
Complainant's signature: _____ Date: _____		
Approximate installed cost of corrective measures: \$ _____		
Date installation completed: _____		
Date first letter sent to complainant: _____ (copy attached)		
Date final letter sent to complainant: _____ (copy attached)		
This information is certified to be correct: 		
Plant Manager's Signature: _____		

(Attach additional pages and supporting documentation, as required).

C. SOCIOECONOMICS

Under this topic, we evaluate any direct, indirect, or cumulative impacts the project may cause to local public services or infrastructure, and, we examine any relevant community issues.

SUMMARY OF THE EVIDENCE

Direct Effects

To meet accelerated project construction requirements, Applicant will employ two construction shifts: a day and a night shift. LECEF's construction is expected to be completed in four to six months and the number of workers will range from a maximum of approximately 321. Of these, some 287 will come from varying trades common to the construction industry. Construction of the gas and water lines will require an additional 34 workers. (Exs. 1, p. 4.8-9; 3l, pp. 24-25.)

Important construction trades include carpenters, electricians, millwrights, operators, pipefitters, and other laborers. There is a sufficient labor force in Santa Clara County and the surrounding Bay Area counties from which to draw the required construction trades. (See **SOCIOECONOMICS Table 1** below that presents the distribution of workers by craft and month required for LECEF's construction.) (Ex. 1, p. 4.6-10.)

The LECEF will result in indirect and induced jobs during plant construction and operation. To estimate the number of jobs it would produce, the Applicant employed the IMPLAN Input-Output model for Santa Clara County. The model estimated that, during construction, the proposed project would produce 44 indirect and 67 induced jobs. These jobs will result from an estimated \$7 million in local construction expenditures and \$6.51 million from local spending by construction workers.

SOCIOECONOMICS, Table 1
Projected Monthly Construction Labor By Craft¹

Month	Carpenters	Electricians	Ironworkers	Laborers	Millwrights	Operating Engineers	Painters	Pipefitters	Bricklayer Mason	Teamsters	Supervisors	Total	ALL TOTAL SHIFTS
Day Shift													
Feb-01	18	14	24	20	0	12	0	35	4	2	13	142	251
Mar-02	14	24	22	15	10	10	0	44	4	2	12	157	287
Apr-02	14	17	26	16	10	10	0	30	2	2	12	139	252
May-02	12	16	22	15	20	12	0	33	4	2	12	148	267
June-02	8	18	20	12	24	10	9	33	4	2	13	153	281
Total	66	89	114	78	64	54	9	175	18	10	62	739	1338
Night Shift													
Feb-01	14	12	18	24	0	10	0	22	0	2	7	109	251
Mar-02	12	13	18	20	15	10	0	30	0	2	10	130	287
Apr-02	8	12	12	18	15	10	0	27	0	2	9	113	252
May-02	10	18	16	16	13	10	0	25	0	2	9	119	267
June-02	10	20	16	15	15	11	5	25	0	2	9	128	281
Total	54	75	80	93	58	51	5	129	0	10	44	599	1338

(Ex. 1, p. 4.8-10.)¹⁵⁶

The construction sector employs about 48,700 workers in Santa Clara County. For major construction projects, the construction labor pool comes from areas that are within a two-hour commute of the LECEF site. Because of the nature of the construction industry in the San Francisco Bay Area, the labor force is accustomed to commuting to construction sites throughout the region. (Ex. 1, p. 4.8-5.)

As shown in **Table 2** below, there are approximately 211,000 potential workers in the construction labor force in the required occupations. The plant operations labor pool is estimated at almost 69,000. Most of the construction labor force will

be drawn from the local area and will commute daily less than 30 miles each way to reach the job site. (Ex. 3I, p. 25.) Almost all of the workforce will commute 60 miles or less; therefore, the construction workforce will not adversely impact housing or schools. (*Ibid.*)

SOCIOECONOMICS, Table 2
Labor Force Characteristics in
Potential Labor Force in the Principal Labor Pool Area¹

Annual Averages²			
Occupational Title	1999	2002	Percentage Change
Construction:			
Boilermakers	120	100	-16.7
Bricklayers/Cement Mason	3,640	4,340	19.2
Carpenters	13,360	15,260	14.2
Electricians	9,020	10,440	15.7
Insulators	830	1,120	34.9
Structural metal workers	310	350	12.9
Laborers	102,240	123,490	20.8
Millwrights	480	430	-10.4
Operating Engineers	2,600	3,130	20.4
Painters	5,920	7,080	19.6
Pipefitters/Sprinklerfitters	5,680	6,850	20.6
Sheetmetal Workers	3,590	3,870	7.8
Supervisors (construction)	5,690	6,650	16.9
Surveyors (including technicians)	1,610	1,590	-1.2
Truck Drivers	20,310	21,840	7.5
Welders	4,330	4,990	15.2
Total Construction:	179,730	211,530	17.7
Operations:			
Mechanical Engineers (including technicians)	7,240	9,190	26.9
Electrical Engineers (including technicians)	41,200	53,720	30.4
Plant and System Operators	5,600	5,710	2
Total Operations:	54,040	68,620	27
Source: California Employment Development Department, 1999 ¹ The labor pool area here includes the counties of Alameda, Santa Clara, Contra Costa, San Mateo, San Francisco, Santa Cruz and San Joaquin. ² Figures represent aggregated county-wide from 1999			

Source (Ex. 1, p. 4.8-5.)

¹⁵⁶ For purposes of the demographic survey in this section, the regional area is defined as Santa Clara County, which comprises the San Jose Metropolitan Statistical Area (MSA). (Ex. 3I, p. 24.)

As seen in **Table 3** below, the construction sector in Santa Clara County employs about 48,700 workers, which accounts for approximately 5 percent of the available jobs.

SOCIOECONOMICS, Table 3
Labor Force Characteristics in Santa Clara County, 2000

Sector	Santa Clara County
Civilian labor force	1,003,300
Unemployment	19,900
Agriculture	5,300
Construction	48,700
Manufacturing	260,200
Transportation/public utilities	29,100
Trade	195,800
Finance/insurance	32,100
Services	364,500
Government	94,700

Source: (Ex. 1, p. 4.8-4.)

Schools in Santa Clara County, under the jurisdiction of the Santa Clara Unified School District (SCUSD), could accommodate the children of both temporary construction worker and permanent operations workforce parents who relocate to the area. In addition, the Sunnyvale School District, San Jose Unified School District and Milpitas Unified School District, which serve areas in the vicinity of the LECEF, could also accommodate children of temporary construction worker parents and permanent operations workforce. (Ex. 1, p. 4.8-7.)

The Mayne (George) Elementary School, part of the SCUSD, is located in Alviso at 5030 North 1st Street, 2.5 miles west of the LECEF site. Spangler (Anthony) Elementary School, located across I-880 at 140 North Abbott Road in Milpitas, 2.3 miles east of the LECEF, is the closest school to the LECEF site. It is part of the Milpitas Unified School District. (Ex. 1, p. 4.8-7.)

Table 4 below presents enrollment trends for the SCUSD, Sunnyvale School District, San Jose Unified School District, Milpitas Unified School District and Santa Clara County as a whole. Compared to the 1999-2000 school year, 2000-2001 enrollment in Santa Clara County and the Santa Clara Unified School

District dropped by 778 and 480, respectively. Enrollment in the remaining districts also dropped from previous years.

SOCIOECONOMICS, Table 4
Enrollment in Project Area Schools

School	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Santa Clara Unified School District	14,018	14,386	14,559	14,654	14,587	14,107
Sunnyvale Elementary	5,896	5,923	6,077	6,022	5,875	5,951
San Jose Unified School District	32,160	32,592	32,993	32,843	33,035	33,015
Milpitas Unified School District	9,490	9,788	9,946	9,917	9,925	9,702
Santa Clara County Total	243,514	248,377	252,207	253,367	254,782	254,004

Source: (Ex. 1, p. 4.8-7.)

There are 15 hospitals with emergency rooms in Santa Clara County. The closest facility is the Santa Clara Kaiser Permanente Medical Center, located 7.5 miles southwest of the LECEF site. It is a 336-bed hospital with a 24-hour emergency room. Santa Clara Valley Medical Center (SCVMC) is located at 751 South Bascom Avenue, approximately 10 miles from the proposed LECEF site. It is a 394-bed public facility and provides 24-hour emergency room service. (Ex. 1, p. 4.8-7.)

Police protection for the LECEF area is provided by the San Jose Police Department and the Santa Clara County Sheriff's Department. The San Jose Police Department is headquartered 6.7 miles north of the LECEF site, at 201 West Mission Street. The department has 1,300 sworn officers. The LECEF site is located in the Police Department's "R" district. The "R" district is split into 5 beats; each of which has at least one officer patrolling at all times. The Police Department projects a 90-second to 5.5-minute response time to the LECEF. (Ex. 1, p. 4.8-6.)

The Santa Clara County Sheriff's Department, headquartered 6.2 miles away at 55 West Younger Avenue in San Jose, provides additional support and typically

patrols unincorporated areas of Santa Clara County. In addition, the Milpitas Police Department can provide emergencies services support. The Milpitas Police Department is located 2.8 miles away from the LECEF site, at 1275 North Milpitas Blvd. (Ex. 1, p. 4.8-6/7.)

The San Jose Fire Department provides ambulance service to the proposed project site. San Jose Fire Station No. 29, located between Highways 101 and 880, can respond to an emergency at the LECEF in 6 to 7 minutes. The City of San Jose maintains a Hazardous Incidence Team (HIT) which is also located at San Jose Fire Station No. 29. The HIT is able to manage hazardous material emergencies, including incidents involving aqueous ammonia, which will be stored at the proposed facility.¹⁵⁷

LECEF's initial capital cost is estimated to be \$120 million. The estimated value of materials and supplies that will be purchased locally is \$7 million (or about 5.8 percent of the total construction cost). The total sales tax expected to be generated during construction is \$560,000 to \$825,000 (i.e., 8.0 percent of local sales). LECEF will provide about \$15.5 million in construction payroll, and 60%, or 9.3 million, is assumed to stay in the San Jose MSA. These expenditures will result in indirect and induced employment within Santa Clara County because of additional spending attributed to construction workers. (Ex. 3I, p. 25.)

The power plant's operation will generate a small economic benefit by employing 20 people at an average annual salary of \$56,000 per person, resulting in an annual payroll of about \$1.12 million. In addition, there will be an annual operations budget of \$840,000; most of which will go to the local economy. The local economy will also be the primary beneficiary of LECEF's annual maintenance budget of \$175,000 per year. (Ex. 3I, p. 25.)

¹⁵⁷ Fire protection is discussed in detail in **Worker Safety & Fire Protection**, and storage of hazardous materials is discussed in **Hazardous Materials Management**.

Estimated indirect and induced employment within Santa Clara County would be 4 and 6 permanent jobs, respectively. Applicant estimated indirect and induced income impacts to be \$217,055 and 202,513, respectively. The associated employment and income multipliers for the project are 1.5 and 1.2 respectively. (Ex. 3I, p. 26.)

Property taxes for the proposed LECEF will be calculated at one percent of assessed value at the time the LECEF goes into operation and increased at two percent per year thereafter. Based on its projected cost of \$120 million, initial property tax revenue to the City of San Jose is expected to increase by \$1.2 million. A breakdown of City revenue for the current and recent fiscal years is presented in **Table 5**. (Ex. 1, p. 4.8-6.)

SOCIOECONOMICS, Table 5
City of San Jose General Fund Tax Revenue

Revenue Source	1999-2000	2000-2001	2001-2002 (Budgeted)
Property Taxes	\$ 71,971,000	\$ 80,693,570	\$ 82,167,000
Sales Tax	\$142,268,039	\$169,216,984	\$153,650,000
Utility	\$ 53,425,760	\$ 67,446,480	\$ 62,520,000
California State In-Lieu Tax	\$ 45,394,373	\$ 50,282,974	\$ 51,289,000
Franchise Tax	\$ 30,322,259	\$ 29,172,058	\$ 31,567,000
Transient Occupancy Tax	\$ 8,287,524	\$ 10,919,727	\$ 10,000,000
Total:	\$351,668,955	\$407,731,793	\$391,193,000

(Ex. 1, p. 4.8-5.)

In its analysis, Staff concluded that construction and operation of the LECEF would present no impacts to the local area. Staff's impacts summary is presented below in **Table 6**. Likewise, because the LECEF would not result in any significant socioeconomic impacts to population and housing, or public services, it is unlikely that it would contribute considerably to cumulative socioeconomic impacts. We concur with Staff's conclusion that there are no adverse cumulative socioeconomic impacts. (Ex. 1, p. 4.8-17.)

**SOCIOECONOMICS, Table 6
IMPACTS SUMMARY**

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
SOCIOECONOMICS: POPULATION, HOUSING, AND ECONOMIC (FISCAL AND NON-FISCAL)-- Would the project:				
a) Have substantial non-fiscal effects on local employment and economy?				X
b) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
c) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
d) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
e) Have substantial fiscal effects on local government expenditures, property and sales taxes?				X
f) Have a significant minority or low-income population within a six-mile radius that may be subject to disproportionate adverse effects of the project?				X
Public Services – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered facilities, the construction of which could cause significant environmental impacts, or result in an inability to maintain acceptable service ratios, response times, or other performance objectives for the following:				
g) Police protection?				X
h) Schools?				X
i) Medical and other public services and facilities?				X

Source: (Ex. 1, p. 4.8-9.)

FINDINGS AND CONCLUSION

Based upon the uncontroverted evidence of record, we find and conclude as follows:

1. The proposed project will draw primarily upon the local labor force for construction and operational workers.

2. The proposed project will not cause an influx of a significant number of construction or operation workers into the project area.
3. The proposed project will not strain local housing, medical, police, and fire fighting services, which are adequate to meet the needs of the proposed project.
4. Construction and operation of the proposed project will result in direct, indirect, and induced benefits to the local economy from increased revenue from property and sales taxes, employment, and sales of services, manufactured goods, and equipment.
5. Socioeconomic impacts resulting from construction and operation activities of the proposed project, when considered alone or cumulatively, will present no impacts.
6. The Conditions of Certification below assure that the proposed project will comply with the laws, ordinances, regulations, and standards related to socioeconomics as identified in the pertinent portion of Appendix A of this Decision.

We therefore conclude that the proposed project will not result in any significant direct, indirect, or cumulative adverse socioeconomic impacts.

CONDITIONS OF CERTIFICATION

SOCIO-1 The project owner and its contractors and subcontractors shall recruit employees and procure materials and supplies within the Bay Area unless:

- To do so will violate federal and/or state statutes;
- The materials and/or supplies are not available;
- Qualified employees for specific jobs or positions are not available; or
- There is a reasonable basis to hire someone for a specific position from outside the local area.

Verification: At least 60 days prior to the start of construction, the project owner shall submit to the Energy Commission CPM copies of contractor, subcontractor, and vendor solicitations and guidelines stating hiring and procurement requirements and procedures. In addition, the project owner shall notify the CPM in each Monthly Compliance Report of the reasons for

any planned procurement of materials or hiring outside the Bay Area that will occur during the next two months.

SOCIO-2 The project owner shall pay the one-time statutory school facility development fee as required prior to the issuance of the in-lieu building permit with the City of San Jose.

Verification: The project owner shall provide proof of payment of the statutory development fee in the next Monthly Compliance Report following the payment.

D. TRAFFIC AND TRANSPORTATION

In this section, we examine the extent to which the Proposed project will affect the regional and the local transportation systems. In some cases large numbers of construction workers can, over the course of the construction period, increase roadway congestion and affect traffic flow. Transportation of large pieces of equipment on local roadways may also prove disruptive, as well as trenching and other activities associated with building the project's linear facilities. During these licensing proceedings, we therefore identified:

- the roads and routings that will be used;
- potential traffic problems associated with those routings;
- the anticipated number of deliveries of oversized/overweight equipment;
- anticipated encroachments upon public rights-of-way;
- the frequency of, and routes associated with, delivery of hazardous materials; and
- the availability of alternative transportation methods.

SUMMARY OF THE EVIDENCE

The primary roadway corridors in the North San Jose region are Interstate 880, US 101, and SR 237. All three roadways are under the jurisdiction of California's Department of Transportation (Caltrans). In relation to the proposed project, US 101 intersects with I-880 in San Jose approximately 4 miles to the south, and SR 237 in Mountain View approximately five miles to the west. Generally, Levels of Service, (LOS) in these corridors range from C to F. (Exs. 1, p. 4.10-3; 3K, p. 29.)

LOS measurements represent the flow of traffic when assessing a project's potential impact on the local transportation system. LOS is a description of a driver's experience at an intersection or roadway based on the level of congestion (delay); however, it is not a measure of safety or accident potential. Levels of Service range from A, free flowing traffic, to F, which is heavily congested with flow-stoppages. The City of San Jose has defined the desirable minimum LOS for their local intersections to be D during peak

commute times. The Santa Clara County Congestion Management Plan (CMP) also desires a minimum LOS D but allows a LOS E on certain routes of regional significance as well as on state highway facilities. (Ex. 1, p. 4.10-2.)¹⁵⁸

The City of San Jose considers a traffic impact significant if it causes a local intersection to deteriorate below LOS D. If the intersection is already operating at LOS E or F, a traffic impact is considered significant if it causes an increase in the average stopped delay (ASD) for the critical movements by four seconds or more and the critical Volume/Capacity (V/C) value to increase by 0.01 or more.¹⁵⁹

The CMP considers a traffic impact significant if it causes a regional intersection to deteriorate below LOS E. If the intersection is already operating at LOS F, a traffic impact is considered significant if it causes an increase in the ASD for the critical movements by four seconds or more and the critical V/C value to increase by 0.01 or more. The CMP considers an impact to the freeway system significant if it causes the segment to operate below LOS E, or contributes in excess of 1 percent of segment capacity to a segment already operating at LOS F.¹⁶⁰ (Ex. 1, p. 4.10-3.)

I-880 is a four-to six-lane freeway located east of the site. I-880 is oriented north/south and provides a connection between Oakland to the north and Campbell to the south, where it becomes SR 17 into Santa Cruz. Near the proposed LECEF, I-880 is a six-lane freeway, with three mixed flow lanes in each direction. From I-880, the SR 237

¹⁵⁸ The Santa Clara Valley Transportation Authority (VTA) manages the CMP. The CMP defines minimum operation thresholds that are applicable to the LECEF analysis. The City of San Jose's General Plan has incorporated those standards for the proximate state highway system and specific routes of regional significance as set forth in the CMP. (Ex. 1, p. 4.10-1/2.)

¹⁵⁹ ASD is the total stopped time delay experienced by all vehicles in an approach or lane group during a designated time period divided by the total volume entering the intersection in the approach or lane group during the same time period. Stopped time delay is the time an individual vehicle spends stopped in a queue while waiting to enter an intersection. V/C is a measure of the overall sufficiency of an intersection. It is typically referred to as degree of saturation. Sustainable values of V/C range from zero, when the flow rate is zero, to 1.0, when the flow rate equals capacity. (Ex. 1, p. 4.10-3, notes 1 & 2.)

¹⁶⁰ The CMP specifies that freeway capacity for a 6-lane segment is 2,300 vehicles per hour per lane (vphpl) and 2,200 vphpl for a 4-lane facility. (Ex. 1, p. 4.10-3.)

interchange provides access to the project site, which is located a mile to the east. I-880 daily serves approximately 183,000 vehicles. Directional traffic volumes in the area range from 2,800 to 7,800 for peak hours and LOS ranges from B to F. (Exs. 1, p. 4.10-3; 3K, p. 29.)

US 101 provides north-south regional access and extends almost the entire length of California, from beyond the California-Oregon border to Los Angeles. Within Santa Clara County near the proposed project, US 101 is an eight-lane freeway oriented NW/SE with three mixed-flow and one HOV lane in each direction. US 101 daily serves approximately 166,000 vehicles.¹⁶¹ Access to and from the site is provided via US 101 interchanges with I-880, Brokaw Road, Trimble Road, and Montague Expressway. Directional traffic volume range from 4,200 to 6,200 in the peak hours and LOS in the corridor ranges from C to F. (Exs. 1, p. 4.10-3; 3K, p. 29.)

SR 237 extends from US 101 to I-880 in an east/west direction and is located immediately south of the proposed LECEF site. SR 237 is a six-lane freeway with one (1) HOV lane in each direction. SR 237 daily serves 115,000 vehicles. Access to the project site is from Zanker Road, which connects with SR 237. Directional traffic volumes in the area range from 2,000 to 5,500 for peak hour and LOS range from B to F. (Exs. 1, p. 4.10-3; 3K, p. 29.)

The project site is located east of Zanker Road (directly north of SR 237) in the Alviso area of North San Jose and the County of Santa Clara. Access to the proposed project will be from Zanker Road approximately 0.2 miles north of SR 237.¹⁶² Zanker Road is classified as an arterial from the proposed access road south and a major collector

¹⁶¹In Santa Clara County, US 101 crosses through eastern San Jose to the east of the proposed project, and connects with SR's 85, 237, 87, 130 East, 82 North, 152, and 25 East, and I-800, 680 North, and 280 West. (Ex. 3K, p. 29.)

¹⁶² The natural gas and water pipeline will be installed along the access roads; both will begin at the site and tie into Zanker Road and Alviso-Milpitas Road. (Ex. 1, p. 4.10-4; see **Figure 1**, below.)

north of the access road. Zanker Road is two lanes north of SR 237 and varies between two and four lanes to the south. (Ex. 1, p. 4.10-3/4; see **Figure 1**, below.)

Impacts

Construction of the proposed project is anticipated to occur over a four to six month construction period. Staff evaluated project impacts under the construction phase during the peak hour of an average construction period, and the peak hour of the peak construction period: AM Peak hours are between 7:00 to 9:00 AM and PM peak hours are between 4:00 to 6:00 PM. (Ex. 15, pp. 163-64.) Staff's analysis assumes that most trips by an average of 200 workers, who carpool somewhat, will arrive in and outside the peak hour. Staff's estimate is that the proposed project will generate approximately 350 daily trips, 154 of which are expected to occur during the PM peak hour. The peak workforce is expected to be 311 workers. During peak construction months, the proposed project is expected to generate approximately 525 daily trips, 238 of which are expected to occur during the PM peak hour. Approximately 10 daily truck deliveries will occur during construction. (Ex. 1, p. 4.10-5.)

Since daily trip volumes are expected to be significant on the freeway system, Applicant will develop a construction traffic control plan and implementation program (TCP) that limits construction-period truck and worker commute traffic to off-peak periods. We require Applicant to develop this TCP in coordination with the City of San Jose, County of Santa Clara, and Caltrans. (See Condition **TRANS-1**.) With the TCP in place, Staff concluded that construction impacts would be reduced to a less than significant level. (Exs. 1, p. 4.10-5; 3K1, p. 21.)

INSERT

FIGURE 1, Project Location and Roadway Levels of Service

Staff concluded that the traffic volumes be added to Zanker Road would not significantly affect local and regional intersections. However, the volumes that will be added to the freeway segments along SR 237 will be approximately one to two percent of capacity and will adversely affect an already congested freeway system. (Ex. 1, p. 4.10-5.) Zanker Road north of SR 237 is a two-lane road with no dedicated right turn lane at the project's primary access location. In the morning, a relatively high amount of construction traffic, including trucks, will enter the project site at the primary access road. (Ex. 1A, p. 4.10-1.)

Since motorists that normally travel northbound on Zanker Road at high speeds may not expect to find congestion due to vehicles entering the jobsite at this location, a traffic hazard could occur. Therefore, Staff has recommended and we have adopted a condition that requires the project owner to:

- install and illuminate temporary construction zone warning signs along Zanker Road in order to alert unsuspecting motorists of the possibility of this congestion;
- coordinate with the City of San Jose and CHP a temporary speed limit reduction through the construction zone. (Ex. 1A, p. 4.10-1; Condition **TRANS-2**.)

San Jose's General Plan specifies LOS D as the minimum desirable level of service at local signalized intersections during peak commute times, while the County CMP allows a minimum threshold of LOS E for routes of regional significance. Staff evaluated one local intersection and three regional CMP intersections as follows:

1. Zanker Rd./SR 237 (North Intersection);
2. Zanker Rd./SR 237 (South Intersection);
3. Zanker Rd./Tasman Dr.; and
4. Zanker Rd./Montague Expressway. (Ex. 1, p. 4.10-8; see **Figure 1**, above.)

Under existing background conditions¹⁶³, all four of the intersections operate at better than the minimum established LOS thresholds in the PM peak hour. Although the intersection at Zanker Rd./Montague Expressway will operate at LOS E with added construction traffic during the PM peak hour, this LOS is equal to the minimum desired at this regional CMP intersection. Thus, Staff found that the LOS at the four intersections will be unchanged with the addition of peak hour construction traffic. Therefore, there is no significant impact from construction operations. (Ex. 1, p. 4.10-6; see **Figure 1**, above.)

The CMP states that the minimum acceptable LOS is E for freeway segments in the region. Staff evaluated four freeway segments as follows:

1. SR 237 from North First to Zanker (Eastbound);
2. SR 237 from Zanker to I-880 (Eastbound);
3. SR 237 from Zanker to North First (Westbound); and
4. SR 237 from I-880 to Zanker (Westbound).

Under existing background conditions, two of the four segments will operate at levels worse than the minimum established LOS thresholds in the PM peak: SR 237 from North First to Zanker (Eastbound) and SR 237 from Zanker to I-880 (Eastbound) will operate at LOS F. (Ex. 1, p. 4.10-8; see **Figure 1**, above.)

With the addition of PM peak hour construction traffic, LOS along the four segments will not change. The freeway segment at SR 237 from North First to Zanker (eastbound) will experience no new traffic in the PM peak hour. Therefore, no significant impact will occur on this segment. (Ex. 1, p. 4.10-8.)

¹⁶³ Existing (2000) traffic volumes with added traffic from approved developments. The source of the approved developments was the City of San Jose, City of Milpitas, and the City of Santa Clara. Numbers 1 and 2 are intersections affected by the Santa Clara County's regional Congestion Management Plan (CMP).

CMP standards specify that a volume increase of 1 percent of capacity on a facility expected to operate at LOS F is considered significant.¹⁶⁴ With the addition of PM peak hour construction traffic, the freeway segment at SR 237 from Zanker to I-880 (eastbound) will experience additional 130 trips. Since this is a 6-lane facility, the segment capacity is 69 trips (2,300x3x1 percent). Therefore, a significant impact will be created on this freeway segment. (Ex. 1, p. 4.10-8; see **Figure 1**, above.)

Although the impact on SR 237 from Zanker to I-880 (eastbound) is considered significant, widening of the freeway is considered to be too expensive to make it a viable mitigation measure. Furthermore, the impact will only be experienced during the construction phase. This phase will be temporary in nature. Thus, Staff concluded that a TCP limiting construction period truck and project-related commute traffic to off-peak periods in coordination with the City of San Jose, County of Santa Clara, and Caltrans mitigate this project impact. (Ex. 1, p. 4.10-8; Condition **TRANS-1**.)

In addition, Staff found that construction of linear facilities (i.e., gas/water pipelines) will include temporary traffic lane closures affecting the capacity of the following roadways:

1. Zanker Road (between project site and SR 237)
2. Alviso-Milpitas Road (immediately south of the site)

Staff concluded that the TCP will provide for the use of flagmen, advanced warning flashers, signage for temporary lane closures, and off peak construction of linear facilities to avoid traffic flow disruptions to mitigate this impact. (Ex. 1, p. 4.10-8; Condition **TRANS-1**.)

Finally, Staff concluded that, with appropriate mitigation, the proposed project would:

1. not restrict emergency vehicle access during construction;

¹⁶⁴ The CMP specifies that freeway capacity for a 6-lane segment is 2,300 vehicles per hour per lane (vphpl) and 2,200 vphpl for a 4-lane facility.

2. provide sufficient self contained onsite parking so that parking along Zanker Road or Alviso-Milpitas Road would be prohibited;
3. offset the transportation of hazardous materials by imposition of Condition **TRANS-3**;
4. not cause any significant cumulative effects; and
5. not cause or contribute to any environmental justice impacts. (Ex. 1, p. 4.10/11.)

The Committee notes that operation impacts are insignificant due to the small number of personnel required to operate the facility. (See our section on **SOCIOECONOMICS**.)

FINDINGS AND CONCLUSIONS

Based upon the evidence of record, we find and conclude as follows:

1. Construction and operation of the proposed project will cause increased traffic on the local area's road network.
2. The capacities of the roads in the local area are sufficient, with mitigation, to satisfactorily absorb the increased traffic occasioned by construction and operation of the proposed project.
3. All potential adverse impacts from the transportation and handling of hazardous substances can be mitigated to a level of insignificance by complying with applicable law.
4. Compliance with the Conditions of Certification of this Decision will mitigate the potential impacts on transportation and assure the proper handling of hazardous materials during the construction and operation phases.
5. Construction activities will temporarily encroach upon public rights-of-way, and create adverse impacts upon roadway functions and levels of service.
6. Since construction activities are temporary, they will not result in significant impacts to traffic and transportation in the area.
7. Construction and operation of the proposed project will not contribute to cumulatively significant adverse traffic impacts.

We conclude that the proposed project will not create any significant direct, indirect, or cumulative adverse traffic and transportation impacts.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall develop a construction traffic control and transportation demand implementation program that limits construction-period truck and commute traffic to off-peak periods in coordination with the City of San Jose, County of Santa Clara, and Caltrans. Specifically, this plan shall include the following restrictions on construction traffic:

1. establish construction work hours outside of the peak traffic periods to ensure that construction workforce traffic occurs during off-peak hours, except in situations where construction activities necessitate travel during peak hours, in which case workers will be directed to routes that will not deteriorate the peak hour level of service below the local City of San Jose's and County CMP LOS standard;
2. schedule heavy vehicle equipment and building material deliveries to occur during off-peak hours;
3. route all heavy vehicles and vehicles transporting hazardous materials as follows: from SR 237 exit northbound at Zanker Road and turn right to enter the Los Esteros Critical Energy Facility via the primary access road when constructed; and
4. during the construction phase (once every two months), monitor and report the turning movements and traffic volumes for the project access roads during the A.M. (7:00 to 9:00 a.m.) and P.M. (4:00 to 6:00 p.m.) peak hours to confirm construction trip generation rates.

The construction traffic control and transportation demand implementation program shall also include the following provisions for linear facilities:

1. timing of linear construction (all pipeline construction affecting local roads shall take place outside the peak traffic periods to avoid traffic flow disruptions);
2. signing, lighting, and traffic control device placement;
3. temporary travel lane closures;
4. maintaining access to adjacent properties; and
5. emergency access.

Verification: At least 15 days prior to start of site preparation or earth moving activities, the project owner shall provide to the City of San Jose, County of Santa Clara, and Caltrans for review and comment, and to the CPM for review and

approval, a copy of their construction traffic control plan and transportation demand implementation program.

TRANS-2 The project owner shall develop a temporary construction zone signage and implementation plan in accordance with the Manual of Traffic Controls for Construction and Maintenance of Work Zones (Caltrans, 1996). This plan shall alert motorists to possible construction hazards that may occur on Zanker Road in the vicinity of the primary access road. The project owner shall illuminate all posted signs since night work is anticipated. The project owner shall coordinate with the City of San Jose and CHP a temporary speed-limit reduction through the construction zone

Verification: At least 10 days prior to the start of site preparation or earth-moving activities, the project owner shall coordinate approval of the plan with the City of San Jose and CHP. Prior to the beginning of construction the owner shall demonstrate to the CPM that the temporary construction zone signage has been installed and adequately illuminated.

TRANS-3 The project owner shall ensure that all federal, state, and local regulations for the transportation of hazardous materials are observed.

Verification: The project owner shall include in its Monthly Compliance Reports copies of all permits and licenses acquired by the project owner and/or subcontractors concerning the transportation of hazardous substances.

E. VISUAL RESOURCES

Visual resources are the natural and cultural features of the environment that contribute to the visual character or quality of the environment. CEQA requires that projects be examined to evaluate their visual impacts on the environment. The evidence of record contains this evaluation. In this section of our Decision, we summarize relevant portions of that evaluation, and focus on the project's potential to cause substantial degradation to the existing visual character of the project area.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Site

Applicant plans to construct the LECEF a little more than one mile directly east of the community of Alviso, which is located in the northern portion of the City of San Jose.¹⁶⁵ The resident population in the direct area of the proposed project is relatively low (there are three residences to the immediate southeast of the project site). However, the site is visible to large numbers of people who commute to and from work on the adjacent SR-237, a highway build to freeway standards that passes east-west through the area's center. In addition, the northern portion of San Jose in the area of the proposed facility is seen by large numbers of people as they travel along I 880, which is less than a mile to the east. (Ex. 1, p. 4.12-2; Ex. 4H. p. 64.)

¹⁶⁵ Because LECEF's proposed power plant and linear facilities are located within the City of San Jose, the proposed project would be subject to local LORS pertaining to the protection and maintenance of visual resources. A visual impacts determination and an inquiry whether a proposed project complies with applicable LORS is required under current law and regulations. LORS applicable to the proposed project are found in the City of San Jose General Plan, Zoning Ordinance, and Alviso Master Plan. The pertinent sections of the City's General Plan include the scenic routes and trails and pathways discussions under the chapter on Aesthetic, Cultural and Recreational Resources, and the discussion of urban thoroughways under Section V--Land Use/Transportation Diagram. Pertinent standards and policies within the Alviso Master Plan are found in the Land Use Plan section of the Master Plan under Land Use Policies, Design Guidelines, and Landscaping Policies (City of San Jose, 1998a, pp. 43-47, 62-63, and 65-67 respectively). (Ex. 1, p. 4.12-2.)

The proposed site is essentially flat, with level open fields, which provide a prominent agricultural character that is increasingly rare along the SR-237 corridor.¹⁶⁶ The vegetation colors range from green to brown and are transient with seasonal influences. Riparian trees along Coyote Creek add visual variety and provide a visible boundary along the east side of the site.¹⁶⁷ The abrupt rise of the East Bay Hills to the east and north provides visual contrast to the flat terrain of the site and adjacent Bay margin lands. The openness of the site creates the distant, expansive vistas to the north trending ridgeline of the East Bay Hills. As development in the Santa Clara Valley continues, such vistas and visible agricultural heritage are also becoming increasingly rare. (Exs. 1, p. 4.12-3; 4H, p. 64.)

At present, the north San Jose area near the project site has a mix of open space land-extensive infrastructure facilities, and scattered industrial, commercial, and residential development. However, the area is undergoing rapid development, many of the vacant lands are filling in, creating a landscape dominated by complexes of large, boxy industrial, office, and commercial structures surrounded by extensive areas of landscaped parking. (Ex. 4H, p. 64.)¹⁶⁸

¹⁶⁶ The overall landscape pattern consists of flat, open plains dissected by bands of riparian vegetation growing along the area's sloughs and creeks. On the north, the plain is fringed by a several-mile wide band of wetlands along the San Francisco Bay. (Ex. 4H, p. 64; see our sections on **Biological Resources** and **Land Use**, *supra*, for a fuller discussion of the local geography and prior land uses.)

¹⁶⁷ Adjacent to the east of the site is Coyote Creek's riparian corridor and the McCarthy Ranch commercial and office development, which is located between Coyote Creek and I-880 in the City of Milpitas. San Jose's Water Pollution Control Plant's (WPCP) settling ponds are immediately north of the site. WPCP's buffer lands that have been used as hay fields are immediately west of the site, adjacent to Zanker Road. South of the WPCP, additional buffer lands are located on the west side of Zanker Road. Further west, at a distance of approximately 1.7 miles is one of Alviso's residential neighborhoods (along Grand Boulevard). To the south of the site are SR-237, the technology business parks, and Valley Transit Authority's Cerone bus maintenance facility on the south side of SR-237. (Ex. 1, p. 4.12-3.)

¹⁶⁸ With USD's development, the site landscape would have an appearance similar to other technology and industrial parks along the SR-237 corridor. The landscape would be dominated by the large, geometric block forms of the USD's buildings and perimeter and entry landscaping. USD's structures and formal landscaping would mostly obstruct any views across the site. USD's

2. Project Features

Four 90-foot tall heat recovery steam generator (HRSG) stacks are the LECEF's tallest components. Without the presence of USD's proposed campus buildings and landscaping, the LECEF project would be prominently visible in foreground views from SR-237, Zanker Road, the bicycle trail along the north side of SR-237, and the proposed Bay Trail. The LECEF project would also be visible as a distant middleground feature (though not prominently so) from the Alviso residential neighborhood along Grand Boulevard. Residents to the immediate southeast of the site and along Grand Boulevard would have extended views of the project site while motorists on SR-237, Zanker Road, and Grand Boulevard would have views toward the site ranging from brief to moderate. (Ex. 1, p. 4.12-4.)

Residential viewers are considered to have high viewer concern due to the:

- long-term nature of visual exposure that would be experienced from residences within the primary project viewshed, and
- the sensitivity with which people regard their places of residence, while viewer concern is rated low to moderate for motorists. (Ex. 1, p. 4.12/4-5.)¹⁶⁹

LECEF's linear facilities will be located within the project area footprint, as follows:

- the Los Esteros Substation 115 kV double circuit interconnection;
- the underground gas line and its aboveground metering station; and
- the underground recycled water line, wastewater line, and storm water drain. (Ex. 1, p. 4.12-5.)

90-foot tall buildings and trees would allow the upper elevations of the East Bay Hills to the east and north to be partially visible on the skyline. (Ex. 1, p. 4.12-3.)

¹⁶⁹ According to Staff's analytic approach, a moderate degree of visual change coupled with moderate-to-high visual sensitivity results in a significant adverse impact. Visual sensitivity includes reference to visual concern, visual quality, and visual exposure. (Ex. 1, p. 4.12-5; Staff's Reply Brief, p. 8; see Fig. 1, below.)

The electric interconnections at PG&E's proposed Los Esteros Substation would have limited visibility from SR-237 and Zanker Road due in part to its short span. The span is approximately 500 feet from the switchyard on the north side of the project site to LECEF's 115 kV transmission line interconnection. In addition, the electric interconnection would be obscured partially by the PG&E transmission line that would run down the west side of the site and along the north side of SR-237 to its tie-in point on Zanker Road. The gas line metering station would be located interior to the 8-foot tall perimeter sound wall and would not be visible from surrounding viewpoints. The other linear facilities would be underground and would not be visible during project operation. (Ex. 1, p. 4.12-5.)

3. Methodology

Staff established three key observation points (KOPs) to characterize the existing visual setting within which the LECEF project would be evaluated. (See **VISUAL RESOURCES Figure 1**, below.)

Visual Resources, Figure 1

Source: (Ex. 1, App. VR-1.)

KOP 1 was located on eastbound SR-237, approximately 0.25-mile southwest of the project site and just east of the Zanker Road overpass. The site is briefly within the primary cone of vision of eastbound motorists on SR 237. The overall visual sensitivity of the landscape viewed from SR-237 is moderate-to-high, reflecting the:

- moderate visual quality of the open, undeveloped landscape;
- moderate viewer concern for motorists on SR-237 (anticipating open, panoramic vistas to the East Bay Hills); and
- high viewer exposure (due to unobstructed foreground views available to high numbers of viewers) to eastbound motorists on SR-237. (Ex. 1, p. 4.12-6; see Figure 1.)

KOP 2 was located on Zanker Road, approximately 0.38-mile west of the project site, and approximately 0.4-mile north of SR-237. The site is outside of the primary cone of vision for both northbound and southbound motorists on Zanker Road. The overall visual sensitivity of the landscape viewed from this location on Zanker Road is moderate because of the:

- moderate visual quality of the open agricultural landscape;
- low-to-moderate viewer concern; combined with
- moderate-to-high viewer exposure associated with this highly exposed site. (Ex. 1, p. 4.12-6; see Figure 1.)

KOP 3 was located on Grand Boulevard at Pacific Street, approximately 1.7 miles west of the project site. The site is within the primary cone of vision for the residences on Grand Boulevard facing toward the project site. The overall visual sensitivity of the landscape viewed from this location on Grand Boulevard is moderate and reflects the:

1. low-to-moderate visual quality of the predominantly open landscape (that encompasses not only the project site but the WPCP and recent office/technology park development along SR-237);
2. high viewer concern attributed to the viewing residents; combined with
3. low-to-moderate viewer exposure which reflects the extended duration of view available to the residents. (Ex. 1, p. 4.12-6; see Figure 1.)

4. Potential Impacts

In terms of potential impacts, Staff considered visual resources scenarios with and without USD. Staff's analysis and conclusions demonstrate that LECEF's visual impact would be significantly mitigated on all accounts by construction of USD. The Committee's conundrum, however, is that our record suggests that the USD project will not proceed with any certainty absent groundbreaking on the proposed LECEF. (See Applicant Opening Brief pp. 22-23.) Hence, the Committee's evaluation of LECEF from a visual resources standpoint must commence with the assumption that only LECEF will be built. To do otherwise would engage the Committee in an exercise of conjecture on when the USD facility will be constructed at some future time.

Staff's environmental checklist and analysis confirms our dilemma. With the USD project, all impacts are less than significant. On the other hand, without USD, LECEF impact is less than significant only with the incorporation of appropriate mitigation. (See **Visual Resources, Table 1**, below.)

Staff's analysis states that:

The power plant has the potential to cause long-term visual impacts when viewed from KOP 1 and SR-237. As shown in the simulation [Figure 2 below and summarized in Figure 1 above], the overall visual change that would be experienced at KOP 1 would be moderate and is arrived at by evaluating the potential visual contrast, project dominance, and view blockage that would be caused by the proposed project. When viewed from KOP 1 on SR-237, the visual contrast caused by the project's complex, industrial-appearing structures would be moderate-to-high. The structures would appear co-dominant with the foreground linear presence of SR-237 and the rolling landform of the East Bay Hills in the background. Project induced view blockage of the East Bay Hills would be moderate and the panoramic quality of the once open sightlines across the site would be substantially diminished. In the context of the moderate-to-high visual sensitivity at KOP 1, the resulting visual impact on SR-237 as well as the existing bicycle

trail and future Bay Trail alignment would be adverse and significant. (Ex. 1, p. 4.12-12/13.)

VISUAL RESOURCES, Table 1

ENVIRONMENTAL CHECKLIST	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
With U.S. DataPort As Part of the Environmental Setting				
VISUAL RESOURCES - Would the project:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			X	
Without U.S. DataPort As Part of the Environmental Setting				
Would the project:				
a) Have a substantial adverse effect on a scenic vista?		X		
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?		X		
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?		X		

Source: (Ex. 1, p. 4.12-7.)

Visual Resources, Figure 2

Source: (Ex. 1, Figure 5.)

At the hearing on May 20, 2002, Applicant and the City of Milpitas introduced a Draft Settlement Agreement (DSA) containing a revised Landscape Plan. (Ex. 8.) On May 23, 2002, Applicant informed the Committee that the Milpitas City Council had rejected the DSA. (Proposed Ex. 9.)

Under the DSA, Applicant would have been obligated to implement a revised Landscaping Plan, and an enhanced architectural design under an Architectural Review Process (ARP). An Architectural Committee would administer the ARP and Applicant had proposed to fund the process with \$2,000,000 for LECEF's "architectural treatment." (*Ibid.*)

Specifically, Applicant's revised Landscaping Plan would have provided for:

- a revised sound wall design;
- a revised screening plan along the proposed project's southern and eastern perimeters;
- widened planting strips;
- berms on which retaining walls would be located; and
- fast growing evergreen and deciduous trees. (5/20/02 RT 194:22-212-2; Ex. 4H2, pp. 27-29; see Figures 4 and 5 below.)

Visual Resources, Figure 3

Source: (Ex. 1, Figure-7.)

Visual Resources, Figure 4

Source: (Ex. 4H1, Figure-1.)

Visual Resources, Figure 5

Source: (Ex. 4H1, Figure-2.)

In its May 23, 2002, letter to the Committee regarding the DSA, the City's rejection of the Applicant confirmed its intention:¹⁷⁰

[T]o implement Commission Staff's proposed Condition of Certification VIS-3. LECEF would satisfy proposed Condition of Certification VIS-3 by incorporating the comments of Mr. Clayton into the landscaping plan presented on May 20, 2002, by Dr. Priestly. As specified by VIS-3, LECEF will prepare a refined and modified version of that landscaping plan. Commission staff will evaluate the plan to ensure that it achieves the screening standard identified by Commission staff of screening views of the project from Highway 237. LECEF will then implement the approved landscaping plan. (Ex. 9 for identification.)

Staff's expert witness responded that:

- deciduous trees should be avoided in favor of evergreen trees as the former would not provide appropriate screening since they are bare in the wintertime;
- the soundwall alone would be ineffective to screen the plant from KOP 1;
- **Condition VIS-3** would provide effective screening of the proposed facility within a five-year period of time, which meets Staff's criteria for a significant visual impact. (5/20/02 RT 237:7-249-15.)

Staff therefore concluded that effective implementation of its recommended Condition **VIS-3** would reduce LECEF's significant visual impact on views from SR-237, the existing bicycle trail, and the future Bay Trail to levels that would be adverse but not significant. (Ex. 1, p. 4.12-13; see Condition **VIS-3** & **Figure 3**, below.) With respect to all other views from KOP 2 and 3, Staff concluded that the resulting visual impact would be adverse but not significant. (Ex. 1, p. 4.12-13/14.) We adopt these conclusions as our own.

¹⁷⁰ In response to a question from the Coalition, Applicant stated that LECEF would implement the Landscaping Plan even if the DSA with the City of Milpitas were not implemented. (5/20/02 RT 232:23-233-13.)

Cooling Tower Plumes

Staff conducted an independent plume modeling analysis of the project and concluded that visible plumes from the cooling towers would occur.¹⁷¹ Staff's modeling analysis indicates that a relatively low frequency of plume formation would occur as a result of the proposed cooling towers. The reasonable worst-case plumes from the cooling towers (based on a 10 percent frequency of occurrence during seasonal daylight hours from November through April) would rise approximately 118 feet above ground level (approximately 28 feet above the HRSG stacks. (Ex. 1, p. 4.12-4, 12.)

The cooling tower plumes would extend downwind approximately 46 feet. The viewshed of the plumes would be similar to the viewshed for the project structures (given the relatively small size of the projected plumes), when viewed from the Alviso residential area represented by KOP 3. The cooling tower plumes could appear more visible than project structures when backlit by early morning sunlight on clear winter mornings. However, the plumes would typically be of a non-persistent nature and from this more distant viewpoint, the visual prominence of the plumes would be low. The resulting viewer exposure would be low-to-moderate. (Ex. 1, p. 4.12-4, 12.)

The cooling tower equipment would primarily be used for inlet air chilling during warmer weather and would operate for only auxiliary and gas compressor cooling loads when ambient temperatures are less than 50°F. After a review of the cooling tower exhaust data presented in the AFC, a psychrometric analysis was performed to determine the potential for visible water vapor plumes. The analysis demonstrated that cooling tower plumes would occur approximately 16 percent of all daylight hours and approximately 21 percent of all seasonal daylight hours (seasonal daylight hours are those daylight hours during the

¹⁷¹ No visible plumes would occur from the combustion turbine exhaust stacks. (Ex. 1, p. 4.12-9.)

months [November to April] when conditions conducive to plume formation are most prevalent). Because of the low temperatures of the cooling tower exhausts, substantial moisture would not be carried into the air, and most of the cooling tower plumes are predicted to be limited to a transparent haze or wisps of moisture and would be of limited persistence. (Exs. 1, p. 4.12-9; 1A, p. 4.12-1 & **Table 2** below.)

Table 2
Staff Predicted Hours with
Cooling Tower Visible Plumes

	Available Hours	Unabated Cooling Tower	
		Total	Percent*
All Hours	43,630	10,632	24.4%
Daylight Hours	22,270	3,449	15.5%
Seasonal Daylight Hours	9,930	2,110	21.3%
Seasonal hours occur from November through April			

Source: (Ex. 1A, p. 4.12-2.)

Cooling tower plume dimensions for the 10 percent frequency plume during all hours and seasonal daylight hours are set forth below.

Table 3
10th Percentile Cooling Tower Visible Plume Dimensions

All Hours	Cooling Tower
Length (ft)	95
Height (ft)	128
Width (ft)	23
Seasonal* Daylight Hours	
Length (ft)	46
Height (ft)	121
Width (ft)	20
* Seasonal = November through April	

Source: (Ex. 1A, p. 4.12-2.)

The 10 percent frequency plumes for seasonal daylight hours are predicted to be very small with a length of 46 feet, a height of 121 feet, and a width of 20 feet. Staff concluded that the effect of these plumes would extend no higher than 31 feet above the tallest project structural component (90-foot combustion turbine stack). (Ex. 1A, p. 4.12-2.)

5. LORS Compliance

Both Staff and Applicant have listed the applicable LORS for the City of San Jose. In its analysis, Staff found nineteen relevant LORS that pertain to the enhancement and/or maintenance of visual quality. Without USD, the proposed LECEF project would be:

- consistent with two policies;
- partially consistent with two policies; and
- inconsistent with 15 policies.

In all cases of inconsistency or partial consistency, Staff concluded that:

- either the inconsistencies would not initially produce a significant visual impact, or
- with timely and effective implementation of staff's conditions of certification, the impacts causing the inconsistencies would be mitigated to levels that would not be significant. (Ex. 1, p. 4.12-18; see Appendix F.)

Appendix F describes the proposed project's consistency with the applicable LORS under both baseline scenarios: With U.S. DataPort as part of the visual setting and without U.S. DataPort as part of the visual setting. With U.S. DataPort, the proposed project would be consistent with sixteen of the policies. In two instances, the project was determined to be inconsistent with local policy regarding height limitations.¹⁷² In one instance, the project was found partially consistent with respect to landscaping requirements.

Applicant has prepared a modified version of Staff's Appendix F. (See Appendix G.) Applicant's Appendix G adds a new column to the far right wherein Applicant sets forth a consistency assessment. Applicant argues that its consistency assessment demonstrates substantial consistency with San Jose's visual LORS with implementation of Staff's recommended Conditions of Certification. (5/20/02

¹⁷² LECEF is now consistent with the City of San Jose's and Alviso Master Plan's height limitation for lands outside the village area because of a General Plan amendment to allow building heights up to 100 feet. This amendment was approved for the LECEF project by the City of San Jose in November 2001. (5/20/02 RT 218:23-219-6.)

RT 215:25-281-15; Ex. 4H2, p. 4.12-32.) Applicant's **LORS Supplement** is reproduced in Appendix G.¹⁷³

Moreover, Applicant asserts--consistent with Staff's analysis--that the City of San Jose has stated that its General Plan policies should be interpreted such that only a substantial or significant impact to scenic qualities results in noncompliance with LORS. Applicant argues that under San Jose's interpretation, there is no inconsistency between its General Plan policies and the LECEF design as follows:

Findings of consistency with the General Plan and the Alviso Master Plan were made by the City when it approved the US DataPort/LECEF project. Therefore, consideration of the additional visual mitigation measures suggested by the City of Milpitas, except for the soundwall revision,¹⁷⁴ is not necessary to assure compliance with City of San Jose's LORS. (5/20/02 RT 215:7-281-15/24; Ex. 1, p. 4H2, 31, 32.)

6. Cumulative Impacts

Cumulative impacts to visual resources could occur where project facilities or activities (such as construction) occupy the same field of view as other built facilities or impacted landscapes. It is also possible that a cumulative impact could occur if a viewer's perception is that the general visual quality of an area is diminished by the proliferation of visible structures (or construction effects such as disturbed vegetation), even if the new structures are not within the same field of view as the existing structures. The significance of the cumulative impact would depend on the degree to which:

¹⁷³ Except for the additional column, Applicant's **Table 4 Supplement** is a duplicate of Staff's **Table 4**. Applicant's intent in providing its supplement was to review the inconsistencies identified by Staff in light of the revised Landscaping Plan. (3/20/02 RT 215:3-221-4.)

¹⁷⁴ The sound wall revision is part of the DSA proposal that Applicant had tentatively reached with the City of Milpitas on a revised Landscape Plan that would have resolved Milpitas' concerns with original LECEF's Landscape Plan. (5/20/02 RT 194:9-211-17; Ex. 8.)

- the viewshed is altered;
- visual access to scenic resources is impaired;
- visual quality is diminished; or
- the project's visual contrast is increased. (Ex. 1, p. 4.12-15.)

Six projects either have been approved for construction or are under construction in the project viewshed bounded by I-880 on the east, SR-237 on the south, and 1st Street and Grand Boulevard on the west. These five projects have the potential to be visible within the same viewshed as the proposed project depending on viewing location and include:

- U.S. DataPort Industrial Campus,¹⁷⁵
- PG&E's Los Esteros Substation,
- City of San Jose's 500+ MW power plant,
- Cisco Systems Industrial Campus,
- Veritas Software Industrial Campus, and
- Irvine Company Business Park. (Ex. 1, p. 4.12-15.)

Without USD as part of the existing setting, in general, any development on the proposed project site would contribute to a significant cumulative visual impact that is occurring within the SR-237 corridor. The cumulative visual impact results from the increasing urbanization of views and the continued loss of open, panoramic vistas from SR-237. Such vista views across agricultural and/or undeveloped Bay margin lands to the hills and ridgelines that surround the South Bay area are becoming increasingly rare in the SR-237 corridor as development continues to encroach upon or block sightlines from SR-237. As a result, views

¹⁷⁵ The LECEF project would be located within the interior of the USD development area, immediately adjacent to the proposed Los Esteros Substation. Because of the screening provided by USD's buildings and associated landscaping, the proposed project would be minimally visible to motorists on SR-237 and Zanker Road, to users of the existing Bike Trail and proposed Bay Trail, to customers and workers in the McCarthy Ranch development, and to residents of the Alviso residential neighborhood along Grand Boulevard. In all cases, visibility of the proposed project would be so limited that a cumulative visual impact would not be significant. (Ex. 1, p. 4.12-15.)

become more confined to high-density urban development (lower quality landscape features) and less exposed to undeveloped lands and hills with more natural character (higher quality landscape features). Therefore, because the proposed project would be highly visible to motorists on SR-237, it would contribute to the ongoing and significant cumulative visual impact that is occurring with the urban buildout along the SR-237 corridor. (Ex. 1, p. 4.12-16.)

Additionally, the LECEF project has the potential to cause specific adverse cumulative visual impacts in conjunction with one or more of the five identified cumulative projects in the immediate project vicinity. Staff concluded, however, that with effective implementation of the Landscaping Plan (**VIS-3**) and as further conditioned by our Conditions of Certification, the resulting cumulative visual impact would be adverse but not significant. (Ex. 1, p. 4.12-16/17.) We concur with this assessment.

COMMISSION DISCUSSION

We do not believe that the Landscaping Plans as Staff proposed in **VIS-3** is inconsistent with elements of the Landscaping Plan that was included in the now-terminated draft Settlement Agreement between Applicant and the City of Milpitas. As Applicant has suggested, we believe that elements of both plans should be incorporated within **VIS-3** to ensure that the LECEF is appropriately screened to mitigate visual impacts to less than significance. We have therefore modified **VIS-3** to reflect this modification.

In terms of LORS, Applicant argues that we should defer to the City of San Jose's guidance. San Jose communicated to Staff that its standards related to Visual Resources should be interpreted so that only a substantial or significant impact to scenic qualities results in noncompliance. (Applicant's Reply to Opposition to Petition to return to the Four-Month Process, pp. 12-14.)

Moreover, Applicant points to case law, which states a general principle that consistency with planning documents is obtained with substantial compliance with planning directives. (Applicant's Reply to Opposition to Petition to return to the Four-Month Process, pp. 12-14.) Finally, Applicant argues that we are bound by the absence of a significant impact determination in *Metcalf*. (Applicant's Reply to Opposition to Petition to return to the Four-Month Process, pp. 14-15.) We accept Applicant's position that we should defer to San Jose for an interpretation of their LORS in the present situation where the City has determined that substantial compliance with the General Plan requirement furthers the City's interest. [See title 20 California Code Regulations, §1714.5 (b)] We are persuaded that the courts of record in California have adopted this principle as law and we believe that we are bound by the court's interpretation.

We believe, however, that the City of San Jose's interpretation of its LORS was based on its review of the whole USD PDZ. As we have seen, the LECEF would be virtually entirely screened by the USD campus style development. The evidence of record has demonstrated that USD's development is, at best, uncertain. Under a scenario where USD is not present, this Commission has to be independently assured that the LECEF project will be consistent with local LORS. We are so persuaded except with respect to the City of San Jose requirement that development such as LECEF "should incorporate interesting and attractive design qualities and promote a high standard of architectural excellence". (See Appendices F & G.) In this lone instance, we agree with Staff that the proposed project is inconsistent with local LORS. Further, we find that the mitigation provided in **VIS-3** does not cure this inconsistency.

We note Applicant's reliance on our decision in *Metcalf*, which found no significant visual resources impact. Our review of *Metcalf's* Conditions of Certification, **VIS-9**, reveals a similar concern in that case with architectural design. We are therefore imposing a similar requirement here in a new condition **VIS-7**, which is based on the *Metcalf* condition **VIS-9**. With implementation of

Condition **VIS-7**, the Commission is satisfied that the LECEF project complies with all local LORS

FINDINGS AND CONCLUSION

Based upon the evidence of record, we find and conclude as follows:

1. The LECEF project is planned for an area that has a mix of open space land-extensive infrastructure facilities, and scattered industrial, commercial, and residential development. This area now is undergoing rapid development, which is in the process of filling in many of the vacant lands and creating a landscape dominated by complexes of large, boxy industrial, office, and commercial structures surrounded by extensive areas of landscaped parking.
2. Implementation of the Landscaping Plan and the Conditions of Certification will reduce the project's visual impacts to less than significant levels in the area.
3. With implementation of the Landscaping Plan and the Conditions of Certification, the project components will not result in significant visual impacts at any key observation point (KOP) or the surrounding locale.
4. With implementation of the Landscaping Plan and the Conditions of Certification, the project will not significantly degrade the general visual character and quality of the area.
5. There may be temporary visual impacts during construction of the project, but no permanent visual impacts will result from these activities.
6. Water vapor plumes may be noticeable on occasion, but with implementation of the specified design parameters, mitigation measures, and the Conditions of Certification, such occurrences will be infrequent and not significant.
7. The incremental effect of the LECEF project contribution to the cumulative visual impacts in the project area is not significant.
8. The mitigation measures imposed upon the LECEF project adequately mitigate its contribution to any overall cumulative visual impact.

9. The LECEF project as conditioned herein will comply with local laws, ordinances, regulations, and standards as specified in the **Visual Resources** portion of this Decision.

We, therefore, conclude that construction and operation of the LECEF will not cause any significant direct, indirect, or cumulative adverse visual impacts. As conditioned, the project complies with all the applicable laws, ordinances, regulations, and standards identified in the appropriate portion of Appendix A of this Decision.

CONDITIONS OF CERTIFICATION

- VIS-1** The project owner shall ensure that visual impacts of project construction are adequately mitigated. To accomplish this, the project owner shall require the following as a condition of contract with its contractors to construct the proposed project:

Protocol: If visible from nearby residences, SR-237, Zanker Road, or Grand Boulevard, the project site as well as staging and material and equipment storage areas shall be visually screened. All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and remediated upon completion of construction.

The project owner shall submit a plan to the California Energy Commission Compliance Project Manager (CPM) for review and approval and to the City of San Jose for review and comment for restoring the surface conditions of any rights of way disturbed during construction of underground pipelines; and staging and storage areas. The plan shall include grading, contouring, and revegetation consistent with applicable plans.

The project owner shall not implement the plan until receiving written approval of the submittal from the CPM.

Verification: At least 45 days prior to beginning implementation of the surface restoration, the project owner shall submit the restoration plan to the CPM for review and approval and to the City of San Jose for review and comment.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 15 days of receiving that notification, the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within 7 days after completing the surface restoration that it is ready for inspection.

VIS-2 Prior to first turbine roll, the project owner shall a) treat all project structures and buildings visible to the public in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape, and b) ensure that those structures and buildings have surfaces that do not create glare. A specific treatment plan shall be developed for CPM approval to ensure that the proposed colors do not unduly contrast with the surrounding landscape colors. The plan shall be submitted sufficiently early to ensure that any precolored buildings, structures, and linear facilities will have colors approved and included in bid specifications for such buildings or structures, unless the structures have been ordered prior to the Commission Decision. Prior to submittal of the plan to the CPM, the project owner shall submit the plan to the City of San Jose for review and comment.

Protocol: The treatment plan shall include:

- a) specification, and 11" x 17" color simulations, of the treatment proposed for use on project structures, including structures treated during manufacture;
- b) a list of each major project structure, building, and tank, specifying the color(s) proposed for each item;
- c) samples of the proposed treatment and color on any fiberglass materials that would be visible to the public;
- d) documentation that the surfaces to be used on all project elements visible to the public will not create glare;
- e) a detailed schedule for completion of the treatment; and;
- f) a procedure to ensure proper treatment maintenance for the life of the project.

After approval of the plan by the CPM, the project owner shall implement the plan according to the schedule and shall ensure that the treatment is properly maintained for the life of the project.

The project owner shall not perform the final treatment on any structures until the project owner receives notification of approval of the treatment plan from the CPM.

Verification: At least 60 days prior to ordering the first structures that are color treated during manufacture, the project owner shall submit its proposed plan to the CPM for review and approval and to the City of San Jose for review and comment.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 days of receiving that notification, the project owner shall submit to the CPM a revised plan.

Not less than 30 days prior to the start of commercial operation, the project owner shall notify the CPM that all structures treated during manufacture and all structures treated in the field are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

VIS-3 The project owner shall provide landscaping that is effective in screening the majority of structural forms (not the upper portions of the stacks) from the following key viewing areas: (a) SR-237 and the existing bicycle trail to the south, (b) Zanker Road to the west, and (c) the proposed Bay Trail alignments to the east (Reach 1) and north (Reach 2). Screening vegetation must be comprised of evergreen species and be provided on all four sides of the proposed project. Landscaping may be coordinated with the proposed PG&E Los Esteros Substation to take advantage of the proposed substation's landscaping. However, trees and other vegetation must be strategically placed and of sufficient height and density to achieve maximum effective screening of the proposed project structures as soon as possible. In screening project facilities, care must be taken in siting vegetation plantings to avoid blocking vista views of distant ridgelines (for an example, see simulation presented as **VISUAL RESOURCES Figure 7**).

Protocol: The project owner shall submit a landscaping plan consistent with the visual simulation provided as **VISUAL RESOURCES Figure 7**, and which incorporates, to the extent feasible, the landscaping plan presented on May 20, 2002, by Dr. Priestly. The Plan shall include:

- a) 11"x17" color simulations of the proposed landscaping at 5 years as viewed from KOPs 1 and 2; and

- b) a detailed list of plants to be used and times to maturity given their size and age at planting.

The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM. However, the planting must be completed as soon as possible consistent with the Applicant's revised landscaping plan that was presented on May 20, 2002.

Verification: Prior to first turbine roll and at least 60 days prior to installing the landscaping, the project owner shall submit the plan to the CPM for review and approval and the City of San Jose for review and comment.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 days after completing installation of the landscaping, that the landscaping is ready for inspection.

VIS-4 Prior to first turbine roll, the project owner shall design and install all lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the night sky is minimized during both project construction and operation. The project owner shall develop and submit lighting plans for construction and operation of the project to the CPM for review and approval and the City of San Jose for review and comment.

Protocol: The lighting plan shall require that:

- a) All exterior night lighting shall be of minimum necessary brightness consistent with operational safety.
- b) Lighting shall be designed so that during both construction and operation (consistent with worker safety), highly directional, exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the night sky is minimized. The design of this outdoor lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary.
- c) High illumination areas not occupied on a continuous basis such as maintenance platforms shall be provided with switches or motion detectors to light the area only when occupied.

- d) A lighting complaint resolution form (following the general format of that in **Visual Resources Appendix VR-2**) shall be used by plant operations, to record all lighting complaints received and to document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.

Lighting shall not be installed before the plans are approved.

Verification: At least 60 days before ordering the exterior lighting, the project owner shall provide the lighting plans to the CPM for review and approval and the City of San Jose for review and comment.

If the CPM notifies the project owner that any revisions to the plans are needed before the CPM will approve the plans, within 30 days of receiving that notification the project owner shall submit to the CPM revised plans.

The project owner shall notify the CPM within seven days of completing exterior lighting installation that the lighting is ready for inspection.”

VIS-5 The project owner shall comply with the City of San Jose’s requirements regarding signs. In addition, the project owner shall install minimal signage, which shall be constructed of non-glare materials and unobtrusive colors. The design of any signs required by safety regulations shall conform to the criteria established by those regulations. The project owner shall submit a signage plan for the project to the CPM for review and approval and to the City of San Jose for review and comment. The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

Verification: Prior to first turbine roll and at least 60 days prior to installing signage, the project owner shall submit the plan to the CPM for review and approval and to the City of San Jose for review and comment.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 days after completing installation of the walls and signage that they are ready for inspection.

VIS-6 The project owner shall implement the "best commercially-feasible available technology" for cooling-related plume abatement. The project owner shall not construct the cooling system until the project owner receives notification of approval from the CPM that the proposed system incorporates the "best commercially-feasible available technology" for plume abatement.

Verification: At least 60 days prior to construction of the power plant, the project owner shall submit to the CPM for review and approval and to the City of San Jose for review and comment an analysis that reviews commercially-feasible and available plume abatement technologies for the cooling system (including dry-chilling) and presents their effectiveness and costs compared to the proposed system, which consists of a two-cell wet counter flow cooling tower.

VIS-7 The power plant shall be designed in a manner that helps visually integrate it with its surroundings. To accomplish these objectives, some elements of the power plant's appearance that draw attention to it as an industrial facility may need to be changed.

Verification: Prior to the start of construction, the project owner shall submit an architectural design treatment plan to the CPM for review and approval and to the City of San Jose for review and comment. The CPM shall then conduct a public meeting to allow interested members of the public an opportunity to view the proposed architectural treatment and may, if warranted, establish an advisory committee to provide comment on achieving an acceptable architectural treatment. The review of Applicant's architectural treatment shall be completed no later than 60 days after it is submitted. The project owner shall submit any required revisions within 30 days of notification by the CPM. The project owner shall not begin implementation of any parts of the final architectural design treatment on any structures until the project owner receives notification of approval from the CPM. Not less than thirty 30 days prior to the start of commercial operation, the project owner shall notify the CPM in writing that all structures are ready for inspection.

Appendix A



***LORS: Laws, Ordinances,
Regulations, and Standards***

AIR QUALITY

FEDERAL

Under the Federal Clean Air Act (42 U.S.C. §7401 et seq.), there are two major components of air pollution law, New Source Review (NSR) and Prevention of Significant Deterioration (PSD). NSR is a regulatory process for evaluation of those pollutants that violate federal ambient air quality standards. Conversely, PSD is a regulatory process for evaluation of those pollutants that do not violate federal ambient air quality standards. The NSR analysis has been delegated by the Environmental Protection Agency (EPA) to the Bay Area Air Quality Management District. The EPA determines conformance with the PSD regulations. The PSD requirements apply only to those projects (known as major sources) that exceed 100 tons per year for any pollutant.

STATE

Health and Safety Code section 41700 requires that “no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.”

LOCAL

The project is subject to all applicable Bay Area Air Quality Management District (District or BAAQMD) rules and regulations, briefly described below:

Regulation 2

Rule 1 - General Requirements. This rule contains general requirements, definitions, and a requirement that an applicant submit an application for an authority to construct and permit to operate.

Rule 2 - New Source Review. This rule applies to all new and modified sources. The following sections of Rule 2 are the regulations that are applicable to this project.

- Section 2-2-301 - Best Available Control Technology (BACT) Requirement: This rule requires that BACT be applied for each pollutant which is emitted in excess of 10.0 pounds per day.
- Section 2-2-302 - Offset Requirement, Precursor Organic Compounds and Nitrogen Oxides. This section applies to projects with an emissions increase of 50 tons per year or more of organic compounds and/or NO_x. Offsets shall be provided at a ratio of 1.15 tons of emission reduction credits for each 1.0 ton of proposed project permitted emissions.

- Section 2-2-303 - Offset Requirements, Particulate Matter (TSP), PM₁₀ and Sulfur Dioxide: If a Major Facility (a project that emits more than 100 tons per year of PM₁₀) has a *cumulative increase* of 1.0 ton per year (tpy) of PM₁₀ or SO₂, emission offsets must be provided for the entire cumulative increase at a ratio of 1.0:1.0.

Emission reductions of nitrogen oxides and/or sulfur dioxide may be used to offset increased emissions of PM₁₀ at offset ratios deemed appropriate by the Air Pollution Control Officer. A facility that emits less than 100 tons of any pollutant may voluntarily provide emission offsets for all, or any portion, of their PM₁₀ or sulfur dioxide emissions increase at the offset ratio required above (1.0:1.0).

- Section 2-2-606 - Emission Calculation Procedures, Offsets. This section requires that emission offsets must be provided from the District's Emissions Bank, and/or from contemporaneous actual emission reductions.

Rule 7-Acid Rain. This rule applies the requirements of Title IV of the federal Clean Air Act, which are spelled out in Title 40, Code of Federal Regulations, section 72. The provisions of Section 72 will apply when EPA approves the District's Title IV program, which has not been approved at this time. The Title IV requirements will include the installation of continuous emission monitors to monitor acid deposition precursor pollutants.

Regulation 6

Regulation 6 - Particulate Matter and Visible Emission. The purpose of this regulation is to limit the quantity of particulate matter in the atmosphere. The following two sections of Regulation 6 are directly applicable to this project:

- Section 301 - Ringelmann No. 1 Limitation: This rule limits visible emissions to no darker than Ringelmann No. 1 for periods greater than three minutes in any hour.
- Section 310 - Particulate Weight Limitation: This rule limits source particulate matter emissions to no greater than 0.15 grains per standard dry cubic foot.

Regulation 9

Rule 1 – Limitations

- Section 301: Limitations on Ground Level Sulfur Dioxide Concentration. This section requires that emissions of sulfur dioxide shall not impact at ground level in excess of 0.5 ppm for three consecutive minutes, or 0.25 ppm averaged over 60 minutes, or 0.05 ppm averaged over 24 hours.
- Section 302: General Emission Limitation. This rule limits the sulfur dioxide concentration from an exhaust stack to no greater than 300 ppm dry.

Rule 9 - Nitrogen Oxides from Stationary Gas Turbines. This rule limits gaseous fired, SCR equipped, combustion turbines rated greater than 10 MW to 9 ppm @ 15 percent O₂.

Regulation 10

Rule 26 - Gas Turbines - Standards of Performance for New Stationary Sources. This rule adopts the national maximum emission limits (40 C.F.R. §60) which are 75 ppm NO_x and 150 ppm SO₂ at 15 percent O₂. Whenever any source is subject to more than one emission limitation rule, regulation, provision or requirement relating to the control of any air contaminant, the most stringent limitation applies.

BIOLOGICAL RESOURCES

FEDERAL

Clean Water Act of 1977

Title 33, United States Code, sections 1251-1376, and Code of Federal Regulations, part 30, section 330.5(a)(26), prohibits the discharge of dredged or fill material into the waters of the United States without a permit.

Endangered Species Act of 1973

Title 16, United States Code, section 1531 et seq., and Title 50, code of Federal Regulations, part 17.1 et seq., designate and provide protection of threatened and endangered plant and animal species, and their critical habitat.

Migratory Bird Treaty Act

Title 16, United States Code, sections 703-712, prohibit the take of migratory birds.

STATE

California Endangered Species Act of 1984

Fish and Game Code sections 2050 et seq. protects California's rare, threatened, and endangered species.

Nest or Eggs-Take, Possess, or Destroy

Fish and Game Code section 3503 protects California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird.

Birds of Prey or Eggs-Take, Possess, or Destroy

Fish and Game Code section 3503.5 protects California's birds of prey and their eggs by making it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

Migratory Birds-Take or Possession

Fish and Game Code section 3513 protects California's migratory birds by making it unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act or any part of such migratory non-game bird.

Fully Protected Species

Fish and Game Code sections 3511, 4700, 5050, 5515 prohibit take of animals that are classified as Fully Protected in California.

Significant Natural Areas

Fish and Game Code section 1930 et seq. designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat.

Native Plant Protection Act of 1977

Fish and Game Code section 1900 et seq. designates state rare, threatened, and endangered plants.

Streambed Alteration Agreement

Fish and Game Code section 1600 et seq. requires CDFG to review project impacts to waterways, including impacts to vegetation and wildlife from sediment, diversions, and other disturbances.

California Code of Regulations

Title 14, sections 670.2 and 670.5 list animals of California designated as threatened or endangered.

Regional Water Quality Control Board

To verify that the federal Clean Water Act permitted actions comply with state regulations, the project owner possibly will need to get a Section 401 certification from the San Francisco Bay Regional Water Quality Control Board (RWQCB). The Regional Board provides its certification after reviewing the federal Nationwide Permit(s) that is provided by the U.S. Army Corp of Engineers.

LOCAL

Santa Clara County General Plan

Policy R-RC 19 requests that habitat types and biodiversity be maintained and enhanced. Policy R-RC 24 requests that areas of particularly fragile ecological nature necessary for preserving threatened or endangered species receive special consideration for preservation and protection from development impacts. Policy R-RC 37 requests that lands near creeks, streams, and freshwater marshes shall be considered to be in a protected buffer area. Policy R-RC 38 states that buildings, structures, and parking lots are not allowed in the buffers defined in R-RC 37, exceptions being those minor structures required as part of flood control projects.

Santa Clara County Tree Ordinance

NS-1203.107, sections C16-2(c) and (j), and section C16-3 define Heritage and ordinance trees and prohibits removal without a permit.

City of San Jose 2020 General Plan

Woodlands, Grasslands, Chaparral, and Scrub Policies

Number 8: Serpentine grasslands should be preserved and protected to the greatest extent feasible or appropriate measures should be taken to restore or compensate.

Bay and Baylands Policies

Number 5: The City should continue to participate in the Santa Clara Valley Non-Point Source Pollution Control Program and meet regional water quality standards implemented through the National Pollution Discharge Elimination System Permits.

Species of Concern Policies

Number 1: Consideration should be given to setting aside conservation areas in the Bay and baylands, along riparian corridors, upland wetlands, and hillside areas to protect habitats of unique, threatened, and endangered species.

Number 2: Habitats that support Species of Concern should be retained to the greatest extent feasible.

Urban Forest Policies

Number 2: Development projects should include the preservation of ordinance-sized trees, and other significant trees.

Number 8: Where urban development occurs adjacent to natural plant communities (e.g. riparian forest), landscape plantings should incorporate tree species native to the area to the greatest extent feasible.

City of San Jose Riparian Corridor Policy

Guideline 1C: Setback Areas

All buildings, other structures, impervious surfaces, outdoor activity areas, and ornamental landscaped areas should be separated a minimum of 100 feet from the edge of the riparian corridor (or top of bank, whichever is greater). Exceptions to the 100-foot setback may be considered for certain circumstances, including utility or equipment installations which involve no significant disturbance to the riparian corridor during construction and operation, and generate only incidental human activity.

Guideline 2C: Visual and Guideline 2E: Lighting

Development projects should be designed to minimize potential impacts to adjacent riparian habitat through the use of environmentally sensitive

construction materials/activities, specialized lighting features, and native landscaping.

Guideline 2f: Noise

The operation of mechanical equipment within or adjacent to riparian corridors should not exceed noise levels for open space as specified in the Noise Element of the City of San Jose's General Plan. Noise producing stationary equipment should be located as far as necessary from riparian corridors to preclude exceeding the ambient noise level in the corridors.

Guideline 6B: Vegetation Removal

Vegetation removal in riparian areas should be performed only for floodway maintenance or to remove undesirable exotic plants. Herbicides should only be used where manual and mechanical methods are infeasible. If vegetation removal is required as a part of project design, tree removal should be reviewed with the City Arborist. A 3:1 habitat replacement ratio is required and revegetation plans should be reviewed by the City.

Guideline 6D: Herbicides

Herbicide use within and adjacent to riparian corridors should be limited to those specifically labeled for use adjacent to water courses.

Guideline 6E: Non-native Plant Removal

Invasive, non-native plants should be removed and replaced with native plants in the portion of the riparian corridor adjacent to the property to be developed.

Guideline 7B: Water Quality/Drainage and Runoff

The direct discharge of industrial effluent into the riparian channel, corridor, or floodplain is prohibited. Runoff from industrial uses should be directed away from direct entry to the riparian corridor, or Best Management Practices should be provided and permanently maintained and on-site retention areas used.

Ordinance-sized Trees and Heritage Trees

City of San Jose Civil Code, Titles 13.28.330-13.28.360 define and protect Heritage Trees. Title 13.31.010 to 13.32.100 prohibits the removal of trees that are 56 inches or greater at 24 inches above the natural grade or slope without a permit.

Ordinance 26248 - Lighting

City of San Jose Municipal Code (Part 5) states any lighting located adjacent to riparian areas shall be directed downward and away from riparian areas

CULTURAL RESOURCES

Cultural resources are indirectly protected under provisions of the federal Antiquities Act of 1906 (Title 16, United States Code, Section 431 et seq.) and subsequent related legislation, policies, and enacting responsibilities, e.g., federal agency regulations and guidelines for implementation of the Antiquities Act.

FEDERAL

- National Environmental Policy Act (NEPA): Title 42, United States code, section 4321-et seq., requires federal agencies to consider potential environmental impacts of projects with federal involvement and to consider appropriate mitigation measures.
- Federal Register 44739-44738, 190 (September 30, 1983): Federal Guidelines for Historic Preservation Projects: The US Secretary of the Interior has published a set of Standards and Guidelines for Archaeology and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archaeological and historic properties. The Secretary's standards and guidelines are used by federal agencies, such as the Forest Service, the Bureau of Land Management, and the National Park Service. The State Historic Preservation Office refers to these standards in its requirements for selection of qualified personnel and in the mitigation of potential impacts to cultural resources on public lands in California.
- National Historic Preservation Act, 16 USC 470, commonly referred to as Section 106, requires federal agencies to take into account the effects of their undertakings on historic properties through consultations beginning at the early stages of project planning. Regulations revised in 1997 (36 CFR Part 800 et. seq.) set forth procedures to be followed for determining eligibility for nomination, the nomination, and the listing of cultural resources in the National Register of Historic Places (NRHP). The eligibility criteria and the process are used by federal, state, and local agencies in the evaluation of the significance of cultural resources. Very similar criteria and procedures are used by the state in identifying cultural resources eligible for listing in the State Register of Historic Resources. Recent revisions to Section 106 in 1999 emphasized the importance of Native American consultation.
- Executive Order 11593, "Protection of the Cultural Environment," May 13, 1971 (36 Federal Register 8921) orders the protection and enhancement of the cultural environment through providing leadership, establishing state offices of historic preservation, and developing criteria for assessing resource values.

- American Indian Religious Freedom Act; Title 42, United States Code, Section 1996 protects Native American religious practices, ethnic heritage sites, and land uses.
- Native American Graves Protection and Repatriation Act (1990); Title 25, United States Code Section 3001, et seq. Defines “cultural items”, “sacred objects”, and “objects of cultural patrimony”; establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for the return of specified cultural items.

STATE

- Public Resources Code, Section 5000 establishes a California Register of Historic Places; determines significance of and defines eligible properties; makes any unauthorized removal or destruction of historic resources on sites located on public land a misdemeanor; prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn; defines procedures for the notification of discovery of Native American artifacts or remains, and; states that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. The code also discusses the procedures to follow in the event that human remains are discovered.
- Public Resources Code, Section 5097. Public Resources code, Section 21000, et seq, California Environmental Quality Act (CEQA) This act requires the analysis of potential environmental impacts of proposed projects and requires application of feasible mitigation measures.
- Public Resources Code, Section 21083.2 states that if a project may affect a resource that has not met the definition of an historical resource set forth in section 21084.1, then the lead agency may determine whether a project may have a significant effect on “unique” archaeological resources. If a potential for damage to unique archaeological resources can be demonstrated, reasonable effort must be made to leave them undisturbed, or other mitigation measures shall be required. The law also discusses excavation as mitigation; limits the costs of mitigation for several types of projects; sets time frames for excavation; defines “unique and non-unique archaeological resources; provides for mitigation of unexpected resources; and sets financial limitations for this section.
- Public Resources Code, Section 21084.1 indicates that a project may have a significant effect on the environment if it causes a substantial adverse change in the significance of a historic resource; the section further defines a “historic resource” and describes what constitutes a “significant” historic resource.
- CEQA guidelines, Title 14, California Code of Regulations, Section 15126.4 “Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects” sub-section (b) discusses impacts of maintenance, repair,

stabilization, restoration, conservation, or reconstruction of a historical resource. Subsection (b) also discusses mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan.

- CEQA Guidelines, Title 14, California Code of Regulation, Section 15064.5 “Determining the Significance of Impacts to Archaeological and Historical Resources”. Subsection (a) defines the term “historical resources.” Subsection (b) explains when a project may be deemed to have a significant effect on historic resources and defines terms used in describing those situations. Subsection (c) describes CEQAs’ applicability to archaeological sites and provides a bridge between the application of the terms “historic” resources and a “unique” archaeological resource.”
- CEQA Guidelines, Title 14 California Code of Regulations, Section 15064.7 “Thresholds of Significance.” This section encourages agencies to develop thresholds of significance to be used in determining potential impacts and defines the term “cumulatively significant.”
- CEQA Guidelines, Appendix “G” Issue V: Cultural Resources. Lists four questions to be answered in determining the potential for a project to impact archaeological, historic, and paleontologic resources.
- California Penal Code, Section 622.5. Anyone who willfully damages an object or thing of archaeological or historic interest can be found guilty of a misdemeanor.
- California Health and Safety Code, Section 7050.5. If human remains are discovered during construction, the project owner is required to contact the county coroner.

LOCAL

City of San Jose

The General Plan of the City of San Jose asserts that the City has a long colorful heritage that is valuable in adding to a sense of community identity. The City of San Jose seeks to do this by promoting an awareness of San Jose’s historic and archaeological heritage.

The City’s goal is preservation of historically and archaeologically significant structures, sites, districts and artifacts. The City has developed an eleven-point plan that illustrates the City’s policy:

1. Preservation of irreplaceable historic and archaeological resources should be a key consideration in the development review process.

2. The City should use the Area of Historic Sensitivity overlay and landmark designation process to promote and enhance the preservation process.
3. An inventory of significant structures should be maintained and promoted.
4. Areas of numerous significant sites or structures should be considered for inclusion and preservation as Historic Preservation Districts.
5. New development should be designed to be compatible with nearby designated historic resources.
6. The City should foster rehabilitation of buildings and offer financial incentives to assist in the rehabilitation.
7. Historic structures proposed for demolition should be considered for relocation.
8. The City requires archaeologically sensitive areas be investigated during the planning process and appropriate mitigation efforts should be incorporated into the project design.
9. If Native American burials are encountered during construction, development activity should cease until examination and reburial in an appropriate manner is accomplished.
10. Heritage trees should be maintained and protected in a healthy state.
11. The City should encourage the appropriate Federal and State programs that provide tax and other incentives for preservation of resources (SJ 1999b, pp. 83-85).

FACILITY DESIGN

The Lists of Laws, Ordinances, Regulations, and Standards applicable to each engineering discipline (civil, structural, mechanical and electrical) are described in the Application for Certification (LECEF 2001a, Appendices 10A through 10G and Table 10.4-1). Some of these laws, ordinances, regulations, and standards include; California Building Code (CBC), American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME), American Society for Testing and Materials (ASTM) and American Welding Society (AWS).

GEOLOGY, MINERAL RESOURCES, AND PALEONTOLOGY

The applicable LORS are listed in the Application For Certification (AFC), in Section 8.15.4 of the AFC (Calpine c* Power [Calpine], 2001).

FEDERAL

There are no federal LORS for geological hazards and resources, grading, or paleontological resources for the proposed project.

STATE AND LOCAL

The California Building Code (CBC), 1998 edition, is based upon the Uniform Building Code (UBC), 1997 edition, which was published by the International Conference of Building Officials. The CBC is a series of standards that are used in the investigation, design (Chapters 16 and 18) and construction (including grading and erosion control as found in Appendix Chapter 33). The CBC supplements the UBC's grading and construction ordinances and regulations.

The CEQA Guidelines Appendix G provides a checklist of questions that a lead agency should normally address if relevant to a project's environmental impacts.

- Section (V) (c) asks if the project will directly or indirectly destroy a unique paleontological resource or site or unique geological feature.
- Sections (VI) (a), (b), (c), (d), and (e) pose questions that are focused on whether or not the project would expose persons or structures to geological hazards.
- Sections (X) (a) and (b) pose questions about the project's effect on mineral resources.

The "Standard Procedures, Measures for Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources" (Society of Vertebrate Paleontologists [SVP], 1994) are a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. They were adopted in October 1994 by a national organization of vertebrate paleontologists (SVP).

HAZARDOUS MATERIALS MANAGEMENT

A framework, based on environmental laws, ordinances, regulations and standards (LORS), exists to reduce risks of accidents and reduce routine hazards. The following federal, state, and local laws generally apply to the protection of public health and **Hazardous Materials Management**. Their provisions have established the basis for staff's determination regarding the significance and acceptability of the Los Esteros Critical Energy Facility project.

FEDERAL

The Superfund Amendments and Reauthorization Act of 1986 (Pub. L. 99-499, §301,100 Stat. 1614 [1986]), also known as SARA Title III, contains the Emergency Planning and Community Right To Know Act (EPCRA) as codified in 42 U.S.C. §11001 et seq. This Act requires that certain information about any release to the air, soil, or water of an extremely hazardous material must be reported to state and local agencies.

The Clean Air Act (CAA) of 1990 (42 U.S.C. §7401 et seq. as amended) established a nationwide emergency planning and response program and imposed reporting requirements for businesses which store, handle, or produce significant quantities of extremely hazardous materials. The CAA section on Risk Management Plans - codified in 42 U.S.C. §112(r) - requires the states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility. The requirements of the CAA are reflected in the California Health and Safety Code, section 25531 ET seq.

The safety requirements for pipeline construction vary according to the population density and land use, which characterize the surrounding land. The pipeline classes are defined as follows (Title 49, Code of Federal Regulations, Part 192):

- Class 1: Pipelines in locations with ten or fewer buildings intended for human occupancy.
- Class 2: Pipelines in locations with more than ten but fewer than 46 buildings intended for human occupancy. This class also includes drainage ditches of public roads and railroad crossings.
- Class 3: Pipelines in locations with more than 46 buildings intended for human occupancy, or where the pipeline is within 100 yards of any building or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12 month period (The days and weeks need not be consecutive).

The natural gas pipeline will be designed for Class 3 service and will meet California Public Utilities Commission General Order 112-D & E and 58-A standards as well as various PG&E standards. The natural gas pipeline must be constructed and operated in accordance with the Federal Department of Transportation (DOT) regulations, Title 49, Code of Federal Regulations (CFR), Parts 190, 191, and 192:

- Title 49, Code of Federal Regulations, Part 190 outlines the pipeline safety program procedures;
- Title 49, Code of Federal Regulations, Part 191, Transportation of Natural and Other Gas by Pipeline; Annual Reports, Incident Reports, and Safety-Related Condition Reports, requires operators of pipeline systems to notify the U.S. Department of Transportation of any reportable incident by telephone and then submit a written report within 30 days;
- Title 49, Code of Federal Regulations, Part 192, Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, specifies minimum safety requirements for pipelines and includes material selection, design requirements, and corrosion protection. The safety requirements for pipeline construction vary according to the population density and land use, which characterize the surrounding land. This part contains regulations governing pipeline construction, which must be, followed for Class 2 and Class 3 pipelines.

STATE

The California Accidental Release Prevention Program (Cal-ARP) - Health and Safety Code, section 25531 - directs facility owners storing or handling acutely hazardous materials in reportable quantities, to develop a Risk Management Plan (RMP) and submit it to appropriate local authorities, the United States Environmental Protection Agency (EPA), and the designated local Administering Agency for review and approval. The plan must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any preexisting evaluations or studies of the material, the likelihood of the substance being handled in the manner indicated, and the accident history of the material. This new, recently developed program supersedes the California Risk Management and Prevention Plan (RMPP).

Section 25503.5 of the California Health and Safety Code requires facilities which store or use hazardous materials to prepare and file a Business Plan with the local Certified Unified Program Authority (CUPA), in this case Santa Clara County. This Business Plan is required to contain information on the business activity, the owner, a hazardous materials inventory, facility maps, an Emergency Response Contingency Plan, an Employee Training Plan, and other record-keeping forms.

Title 8, California Code of Regulations, section 5189, requires facility owners to develop and implement effective safety management plans to insure that large quantities of hazardous materials are handled safely. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the RMP process.

Title 8, California Code of Regulations, section 458 and sections 500 – 515, set forth requirements for design, construction and operation of vessels and equipment used to store and transfer anhydrous ammonia. These sections generally codify the requirements of several industry codes, including the ASME Pressure Vessel Code, ANSI K61.1 and the National Boiler and Pressure Vessel Inspection Code. While these codes apply to anhydrous ammonia, they may also be used to design storage facilities for aqueous ammonia.

California Health and Safety Code, section 41700, requires that “No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”

LOCAL AND REGIONAL

The California Building Code contains requirements regarding the storage and handling of hazardous materials. The Chief Building Official must inspect and verify compliance with these requirements prior to issuance of an occupancy permit. A further discussion of these requirements is provided in the **Facility Design** portion of this document.

The City of San Jose has the responsibility for administering hazardous materials requirements and ensuring compliance with federal and state laws. The site is currently being annexed into San Jose. In addition, the county has requirements over all cities in some areas. Therefore, the laws and enforcement procedures of both entities are applicable.

The Uniform Fire Code (UFC) contains provisions regarding the storage and handling of hazardous materials. These provisions are contained in Articles 79 and 80. The latest revision to Article 80 was adapted in 1997 (UFC, 1997). These articles contain minimum setback requirements for the outdoor storage of ammonia. The administering agency is the Central Fire Department Santa Clara County and the City of San Jose Fire Department.

LAND USE

STATE

Farmland Mapping and Monitoring Program

The California Department of Conservation established the Farmland Mapping and Monitoring Program (FMMP) in 1982 in response to a critical need for assessing the location and quantity of agricultural lands and conversion of these lands to other uses. The resulting Important Farmland (IFL) maps and related databases comprise the only statewide land use inventory conducted on a regular basis that identifies the conversion of agricultural land to urban and other uses. Every even numbered year FMMP issues a Farmland Conversion Report (DOC, 1998).

REGIONAL

ABAG Regional Goals and Policies

Typically, associations of governments develop regional goals and policies by considering the applicable land use development plans of the jurisdictions within their region. The State and federal governments have designated the Association of Bay Area Governments (ABAG) as the official comprehensive planning agency for the Bay Area. ABAG's region includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. The ABAG Regional Plan provides a policy guide for local development, which includes goals and policies focused on natural resource protection and management. The policy guide includes specific direction for the conservation of ecological resources by encouraging comprehensive land-use planning, establishment of land trusts, purchase of conservation easements and open space, and development of environmentally friendly land uses. ABAG's policies also encourage the preservation of agricultural resources by delineating urban growth boundaries and buffer zones, and protection of agricultural production zones and the agricultural land market (ABAG, 1999).

LOCAL

Local land use laws, ordinances, regulations and standards (LORS) applicable to the proposed project include the City of San Jose General Plan, Zoning Ordinance, Alviso Master Plan, and Riparian Corridor Policy Study, and the Santa Clara County Trails Master Plan.

City of San Jose General Plan

Land use is controlled and regulated by a system of plans, policies, goals, and ordinances that are adopted by public agencies with jurisdictional authority over the area. The general plan is a broad planning document that defines

comprehensive community planning patterns over a relatively long timeframe, which the State requires cities and counties to produce.

The San Jose General Plan (General Plan) includes specific policies to preserve and enhance existing development and to provide for orderly and appropriate new development in the City of San Jose (City) through the year 2020. Actions and approvals required by the City Planning, Building and Code Enforcement Department must be consistent with the General Plan. The General Plan covers the following elements of planning: City Concept; Community Development; Services and Facilities; Aesthetic, Cultural and Recreational Resources; Natural Resources; and Hazards. Each element contains goals, policies, and implementation measures that may be applicable to the proposed project.

As part of the U.S. Dataport project, approved by the San Jose City Council on June 19, 2001, the project site was annexed to the City from the County of Santa Clara. Santa Clara County recorded the annexation to the City as a ministerial function on September 12, 2001 (Applicant, 2001).

Alviso Master Plan

The proposed project site exists within the Alviso Planned Community. The *Alviso Master Plan: A Specific Plan for the Alviso Community* (Alviso Master Plan) was adopted by the City in December 1998 as a detailed policy and planning document for the Alviso Planned Community, the portion of San Jose north of State Route 237 and generally bounded on the east and west by Coyote Creek and the Guadalupe River, respectively. The Alviso Master Plan supplements the General Plan policies by providing a more detailed planning scope. It establishes land uses, circulation patterns, and infrastructure improvements needed to support development within the Alviso Planned Community.

As defined in the Alviso Master Plan, the land use designation for the project site is *Light Industrial (LI)*. According to the General Plan, the LI land use designation allows a wide variety of industrial uses (such as warehousing, wholesaling, light manufacturing, and industrial service and supply businesses) as long as any hazardous or nuisance effects are mitigated. Only low-intensity uses (defined as those with low employment densities) are permitted in the LI areas near Coyote Creek (City of San Jose Alviso Master Plan, 1998).

City of San Jose Riparian Corridor Policy Study

The overall purpose of the Riparian Corridor Policy Study is “to explore in detail issues related to [City of San Jose] General Plan policies which promote the preservation of riparian corridors, the area’s natural streams, and how these corridors should be treated for consistency with the General Plan” (City of San Jose Riparian Corridor Policy Study, 1994). The City’s Riparian Corridor Policy Study contains relevant policies to the proposed LECEF project.

LAND USE Table 1 summarizes relevant policies from the City General Plan, Alviso Master Plan and the Riparian Corridor Policy Study, and provides a brief description of their purpose and intent.

LAND USE Table 1
Relevant Land Use Policies to the Proposed Project

Relevant Policy	Description
City of San Jose General Plan	
Economic Development Major Strategy	Strives to make San Jose a more “balanced community” by encouraging commercial and industrial growth to balance existing residential development.
Greenline Major Strategy	Directs the “preservation of the scenic backdrop of the hillsides surrounding San Jose, reserving land that protects water, habitat, or agricultural resources and offers recreational opportunities”.
Sustainable City Major Strategy	Mandates a “sustainable city, [which] is a city designed, constructed, and operated to minimize waste, efficiently use its natural resources, and to manage and conserve them for the use of present and future generations”.
Industrial Land Use 1	“Industrial development should incorporate measures to minimize negative impacts on nearby land uses”.
Urban Design Policy 1	“The City should continue to apply strong architectural and site design controls on all types of development for the protection and development of neighborhood character and for the proper transition between areas with different types of land uses”
Urban Design Policy 7	The City should require the undergrounding of distribution utility lines serving new development sites as well as proposed redevelopment sites. The City should also encourage programs for undergrounding existing overhead distribution lines. Overhead lines providing electrical power to light rail transit vehicles and high-tension electrical transmission lines are exempt from this policy.
Urban Design Policy 24	New development projects should preserve significant trees, and any adverse affects should be avoided through appropriate design measures and construction practices. When tree preservation is not feasible, the project should include appropriate tree replacement.
Tree Removal Controls	Protects native and non-native with trunks measuring 56 inches or more in circumference, 24 inches above the natural grade of slope. A tree removal permit usually requires the replacement of trees on a 3:1 or 4:1 ratio, as dictated by consultations with the City.
Scenic Routes and Trails Diagram	Due to the City’s diverse natural environment, the City has: “many scenic and recreational opportunities... The Scenic Routes and Trails Diagram identifies the City’s most outstanding natural amenities and establishes guidelines to develop and preserve these resources... Scenic routes, trails and pathways are incorporated into a single plan because they share many of the same characteristics and locations... They all provide scenic views of the natural areas of the City and are linear in form... Because these designations strive for many of the same objectives they sometimes overlap and are incorporated into corridors that provide access to both scenic resources and outdoor recreational opportunities”. Urban Throughways are designated on the Scenic Routes and Trails Diagram and they include “all State and Interstate Highways that traverse through the City’s Sphere of Influence”. Trails and Pathways Corridors are “the interconnecting trail system in the City, providing many important access links to the regional parks and open spaces in or adjoining the City. The Scenic Rotes and Trails Diagram indicates these focal points and designates the most feasible and accessible rotes to develop trails.
Trails and Pathways Policy 1	New development adjacent to the Trails and Pathways Corridors should not compromise safe trail access nor detract from the scenic and aesthetic qualities of the corridor.
Trails and Pathways Policy 2	When new development occurs adjacent to a designated Trails and Pathways Corridor, the City should encourage the developer to install and maintain the trail.
Riparian Corridor Policy 4	“New development should be designed to protect adjacent riparian corridors from encroachment of lighting, exotic landscaping, noise, and toxic substances into the riparian zone.”
Hazards Policy 2	Levels of “acceptable exposure to risk” established for land uses and structures based on descriptions of land use groups and risk exposure levels should be considered in the development review process.

Relevant Policy	Description
Soils and Geologic Conditions Policy 1	The City should require soils and geologic review of development proposals to assess potential hazards relating to seismic activity, surface ruptures, liquefaction, landslides, mudslides, erosion and sedimentation.
Soils and Geologic Conditions Policy 3	In areas susceptible to erosion, appropriate control measures should be required in conjunction with proposed development.
Soils and Geologic Conditions Policy 6	Development in areas subject to soils and geologic hazards should incorporate adequate mitigation measures.
Soils and Geologic Conditions Policy 8	Developments proposed within areas of potential geological hazards should not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties.
Earthquake Policies 3	The City should only approve new development in areas of identified seismic hazard if such hazard can be appropriately mitigated.
Earthquake Policies 5	The City should continue to require geotechnical studies for development proposals; such studies should determine the actual extent of seismic hazards, optimum location for structures, the advisability of special structural requirements, and the feasibility and desirability of a proposed facility in a specified location.
City of San Jose: Alviso Master Plan – A Specific Plan For The Alviso Community	
Community Character Policy 2	New developments should have architectural and landscaping qualities that maintain the “seaside” qualities of Alviso.
Industrial/Non-Industrial Relationships Objective	Setbacks and buffers should be established to protect environmental resources (e.g., Coyote Creek) and “sensitive uses” (e.g., residential, day care, and school uses) from potential negative impacts of industrial use.
Industrial/Non-Industrial Relationships Policy 2	The Light Industrial areas located north of State Street and adjacent to Coyote Creek should mitigate potential negative environmental impacts to nearby natural resources.
Environmental Protection Policy 1	All new parking, circulation, loading, outdoor storage, utility, and other similar activity areas must be located on paved surfaces with proper drainage to avoid potential pollutants from entering the groundwater, Guadalupe River, Coyote Creek, or San Francisco Bay.
Environmental Protection Policy 3	The riparian corridors adjacent to Coyote Creek and Guadalupe River should be preserved intact. Any development adjacent to the waterways should follow the City’s Riparian Corridor Policies.
Environmental Protection Policy 5	To protect aquatic habitats that receive storm runoff, all new development must comply with adopted City Council policy entitled “Post-Construction Urban Runoff Management.”
Lands Outside of the Village Area Design Objective	Given the high visibility of most of this area, development should be attractive, should fit in the context of the larger community, and should reflect some of the elements and materials of seaside styles to contribute to Alviso’s sense of place.
Lands Outside of the Village Area Design Objective – Industrial Development Guidelines	Building heights may only exceed the 45-foot limit if they are located next to State Route 237 and the additional height of the building (up to 90 feet) is coupled with preserved habitat areas on the northern portions of the site.
Landscaping Policy 3	Landscaping should be used to screen unattractive uses and soften the effect of taller buildings due to the flood protection requirements.
Storm Drainage Policy 1	All new development projects should be evaluated to determine the possible need for additional storm drainage facilities.
City of San Jose: Riparian Corridor Policy Study	
Guideline 1A: Orientation	Site activities should be oriented to draw activity away from the riparian corridor, for example, entrances, loading and delivery areas, noise generating activities and equipment, and activities requiring night lighting should be oriented toward non-riparian property edges.
Guideline 1C: Setback Areas	All buildings, other structures, impervious surfaces, outdoor activity areas, and ornamental landscaped areas should be separated a minimum of 100 feet from the edge of the riparian corridor (or top of bank, whichever is greater).
Guideline 2F: Noise	Noise producing stationary equipment should be located as far as necessary from riparian corridors to preclude exceeding the ambient noise level in the corridors.

City of San Jose Zoning Ordinance

The City of San Jose Zoning Ordinance (Zoning Ordinance) is the primary tool for achieving the objectives of the General Plan, by implementing General Plan policies. The Zoning Ordinance provides detailed specifications for allowable development within areas designated by the General Plan.

On March 14, 2001, the San Jose City Planning Commission certified the U.S. Dataport Planned Development Zoning Project EIR and recommended approval of the project to the San Jose City Council. On April 3, 2001, the City Council, acting as the CEQA Lead Agency, approved the U.S. Dataport Planned Development Zoning Project, and adopted an ordinance (No. 26343) to prezone and rezone the U.S. Dataport site, which includes the proposed LECEF project site (LECEF, 2001). The project site was prezoned and rezoned as Agriculture Planned Development, A(PD). This PD zone was based on a General Development Plan for the site (required by Zoning Ordinance § 20.10.070(c)), which included the 2.227 million gross square acre U.S. Dataport data center and a 49-megawatt diesel energy facility (LECEF, 2001). However, the City Council's approval of the U.S. Dataport project included a condition of approval necessitating the U.S. Dataport project to implement an "environmentally superior technology for power generation and supply alternatives that will reduce impacts to local and regional air quality" (Horwedel, 2001b). The proposed LECEF project evaluated represents the environmentally superior alternative to the original U.S. Dataport energy facility. However, since LECEF represented a significant change from the original design, a new Planned Development (PD) was required to comply with the City's Planned Development Procedures (Zoning Ordinance § 20.10.070).

As a result, on September 10, 2001 the Applicant and U.S. Dataport jointly filed a revised PD zone to the City to reflect the increased megawatt output, the modified site plan, and the facility design for LECEF (Horwedel, 2001b). The revised PD zone must be approved by a new City ordinance (City Municipal Code, Title 20, Chapter 20.40) and reviewed under the California Environmental Quality Act (CEQA). The City stated its intention to use the Commission Final Staff Assessment as the environmental review document "to satisfy California Environmental Quality Act requirements [for the PD rezone] as directed by Executive Order D-26-01 from the Governor of California" (Horwedel, 2001c).

On September 13, 2001, Joseph Horwedel, Acting Director of the City's Planning, Building and Code Enforcement Department, issued a letter to the CEC to "provide confirmation of the City of San Jose's intent and ability to process the necessary remaining City approvals (PD Zoning and PD Permit) for the Los Esteros Critical Energy Facility within the timeline set forth in the supplement to the AFC recently submitted to the CEC". (Horwedel, 2001b)

NEED CONFORMANCE

STATE

California Code of Regulations

California Code of Regulations states “The presiding member’s proposed decision shall contain the presiding member’s recommendation on whether the application shall be approved, and proposed findings and conclusions on each of the following: (a) Whether and the circumstances under which the proposed facilities are in conformance with the 12-year forecast for statewide and service area electric power demands adopted pursuant to Section 25309(b) of the Public Resources Code.” [Cal. Code of Regs., tit. 20, § 1752(a).]

Public Resources Code

The Energy Commission’s Final Decision must include, among other things, “Findings regarding the conformity of the proposed facility with the integrated assessment of need for new resource additions determined pursuant to subdivision (a) to (f), inclusive, of Section 25305 and adopted pursuant to Section 25308 or, where applicable, findings pursuant to Section 25523.5 regarding the conformity of a competitive solicitation for new resource additions determined pursuant to subdivisions (a) to (f), inclusive, of Section 25305 and adopted pursuant to Section 25308 that was in effect at the time that the solicitation was developed.” (Pub. Resources Code, § 25523(f).)

Need Conformance Criteria

In order to obtain a license from the Energy Commission, a proposed power plant must be found to be in conformance with the Integrated Assessment of Need. The criteria governing this determination, for projects deemed data adequate prior to July 1, 1999, are contained in the *1996 Electricity Report (ER 96)*, and are most succinctly described on page 72 of that document:

“In sum, the *ER 96* need criterion is this: during the period when *ER 96* is applicable, proposed power plants shall be found in conformance with the Integrated Assessment of Need (IAN) as long as the total number of megawatts permitted does not exceed 6,737.”

NOISE

FEDERAL

To describe noise environments and to assess impacts on noise sensitive areas, a frequency weighting measure, which simulates human perception, is customarily used. It has been found that A-weighting of sound intensities best reflects the human ear's reduced sensitivity to low frequencies and correlates well with human perceptions of the annoying aspects of environmental noise. A C-weighting scale is sometimes used for very loud or very low-frequency noises. The A-weighted decibel scale (dBA) is cited in most national and international noise criteria (Beranek and Ver, 1992).

Under the Occupational Safety and Health Act of 1970 (OSHA) (29 U.S.C. § 651 et seq.), the Department of Labor, Occupational Safety and Health Administration (OSHA) has adopted regulations (29 C.F.R. § 1910.95) designed to protect workers against the effects of occupational noise exposure. **NOISE Table 1** lists these regulations for permissible noise exposure levels as a function of the amount of time to which the worker is exposed. These regulations further specify a hearing conservation program that involves monitoring the noise to which workers are exposed, assuring that workers are made aware of overexposure to noise, and periodically testing the workers' hearing to detect any degradation.

There are no federal laws governing off-site (community) noise.

The Federal Transit Administration (FTA 1995) has published guidelines for assessing the impacts of ground-borne vibration associated with construction of rail projects, which have been applied by other jurisdictions to other types of projects. The FTA-recommended vibration standards are expressed in terms of the "vibration level," which is calculated from the peak particle velocity measured from ground-borne vibration. The FTA measure of the threshold of perception is 65 VdB, which correlates to a peak particle velocity of about 0.002 inches per second (in/sec). The FTA measure of the threshold of architectural damage for conventional sensitive structures is 100 VdB, which correlates to a peak particle velocity of about 0.2 in/sec.

NOISE Table 1
OSHA Worker Noise Exposure Standards

Duration of Noise (Hrs/day)	A-Weighted Noise Level (dBA)
8.0	90
6.0	92
4.0	95
3.0	97
2.0	100
1.5	102
1.0	105
0.5	110
0.25	115

Source: 29 CFR 1910.95, Table G-16.

STATE

California Government Code Section 65302(f) encourages each local government entity to perform noise studies and implement a noise element as part of its General Plan. In addition, the California Office of Planning and Research has published guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. The State land use compatibility guidelines are listed in **NOISE Table 2**.

The State of California, Office of Noise Control, prepared a Model Community Noise Control Ordinance, which provides guidance for acceptable noise levels in the absence of local noise standards (DHS 1977). The Model also contains a definition of “pure tone” based upon one-third octave band sound pressure levels, which can be used to determine whether a noise source contains significant pure tone components. The Model Community Noise Control Ordinance further recommends that, when a pure tone is present, the applicable noise standard should be lowered (made more stringent) by 5 dBA.

Other State LORS include the California Environmental Quality Act (CEQA) and the California Occupational Safety and Health Administration (Cal-OSHA) regulations.

NOISE Table 2 - Land Use Compatibility for Community Noise Environment

LAND USE CATEGORY		COMMUNITY NOISE EXPOSURE - Ldn or CNEL (dB)													
		50		55		60		65		70		75		80	
Residential - Low Density Single Family, Duplex, Mobile Home															
Residential - Multi-Family															
Transient Lodging – Motel, Hotel															
Schools, Libraries, Churches, Hospitals, Nursing Homes															
Auditorium, Concert Hall, Amphitheaters															
Sports Arena, Outdoor Spectator Sports															
Playgrounds, Neighborhood Parks															
Golf Courses, Riding Stables, Water Recreation, Cemeteries															
Office Buildings, Business Commercial and Professional															
Industrial, Manufacturing, Utilities, Agriculture															
	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.													
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.													
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.													
	Clearly Unacceptable	New construction or development generally should not be undertaken.													

Source: State of California General Plan Guidelines, Office of Planning and Research, November 1998.

California Environmental Quality Act

CEQA requires that significant environmental impacts be identified, and that such impacts be eliminated or mitigated to the extent feasible. Section XI of Appendix G of CEQA Guidelines (Cal. Code Regs., Title 14, App. G) sets forth some characteristics that may signify a potentially significant impact. Specifically, a significant effect from noise may exist if a project would result in:

- a) exposure of persons to or generation of noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies;
- b) exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- c) a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- d) a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The Energy Commission staff, in applying Item c) above to the analysis of this and other projects, has concluded that a potential for a significant noise impact exists where the noise of the project plus the background exceeds the background by 5 dBA L_{90} or more at the nearest location where the sound is likely to be perceived.

Noise due to construction activities is usually considered to be insignificant in terms of CEQA compliance if:

- 1. The construction activity is temporary,
- 2. Use of heavy equipment and noisy activities is limited to daytime hours, and
- 3. All feasible noise abatement measures are implemented for noise-producing equipment.

Cal-OSHA

Cal-OSHA has promulgated Occupational Noise Exposure Regulations (Cal. Code Regs., tit. 8, §§ 5095-5099) that set employee noise exposure limits. These standards are equivalent to the federal OSHA standards described above.

LOCAL

San Jose Noise Ordinance

The City of San Jose maintains a noise ordinance that protects the community (including any portion of a neighborhood) from disturbing or unreasonably loud noises. Sections 10.16.010 and 10.16.020 of the Municipal Code generally prohibit such noise because it would disturb the peace of the City.

San Jose Zoning Ordinance

The Zoning Ordinance (Title 20 of the San Jose Municipal Code) includes performance standards for noise transmitted between properties. The

performance standards specify the amount of noise that is allowed to occur at the property line of a noise source adjacent to sensitive uses. The LECEF is located on land designated as A (PD) Planned Development (AFC, Figure 8.4-3) with the base district zoning of the property defined as agricultural (City of San Jose, 2001). The maximum noise levels allowed by Section 20.20.300 of the Zoning Ordinance for uses in Agricultural Districts are as follows (measured at the adjacent property line):

- 55 decibels adjacent to a property used or zoned for residential purposes,
- 60 decibels adjacent to a property used or zoned for commercial purposes,
- 70 decibels adjacent to a property used or zoned for industrial or use other than residential or commercial purposes.

San Jose General Plan

The Hazards/Noise Element of the City of San Jose's 2020 General Plan adopted by the City in 1994 recognizes the above state-level goals of managing sources of community noise. Noise levels below 60 Ldn would be "satisfactory" according to the land use compatibility guidelines for public/quasi-public and residential land uses, parks and playgrounds. Levels below 70 Ldn would be "satisfactory" for industrial and utility land uses. As a long-range objective, 55 Ldn is the acceptable exterior noise quality level. However, it is recognized that because of dominating transportation noise sources, a short-range guideline of 60 Ldn is more realistic. The planned development zoning ordinance adopted for U.S. Dataport specifies that the development comply with the San Jose General Plan noise guidelines (City of San Jose, 2001). The following policies would be relevant to the LECEF:

- Construction operations should use available noise suppression devices and techniques.
- To further the long-term outdoor noise goal of 55 Ldn, commercial, industrial, and other non-residential uses located adjacent to residential land uses and schools, libraries, or hospitals should mitigate noise generation to meet 55 Ldn at the property line.
- Noise studies should be required for land use proposals where known or suspected peak noise event sources occur which may impact adjacent existing or planned land uses.

The Riparian Corridor Policy Study (City of San Jose, 1999) also includes strategies for protecting the natural resources of the Coyote Creek corridor from development that could lead to intrusive noise.

- Noise generating activities in new development should be oriented toward non-riparian property edges.

- The operation of mechanical equipment within or adjacent to riparian corridors (e.g., compressors, street/parking area sweepers) should not exceed noise levels for open space as specified in the Noise Element of the City of San Jose's General Plan or exceed background noise levels. Noise-producing stationary mechanical equipment should be located as far as necessary from riparian corridors to preclude exceeding the ambient noise level in the corridors.

POWER PLANT EFFICIENCY

FEDERAL

No federal laws apply to the efficiency of this project.

STATE

California Environmental Quality Act Guidelines

CEQA Guidelines state that the environmental analysis "...shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy" [Cal. Code Regs., tit. 14, § 15126.4(a)(1)]. Appendix F of the Guidelines further suggests consideration of such factors as the project's energy requirements and energy use efficiency; its effects on local and regional energy supplies and energy resources; its requirements for additional energy supply capacity; its compliance with existing energy standards; and any alternatives that could reduce wasteful, inefficient and unnecessary consumption of energy (Cal. Code regs., tit. 14, § 15000 et seq., Appendix F).

Warren-Alquist Act

The Warren-Alquist Act allows a simple-cycle power plant, with its typically lower efficiency and greater air emissions, to be sited and operated for a period not to exceed three years, providing the plant is then either shut down or modified to combined cycle configuration and currently required air emissions control technology. The Act states "[t]hat the thermal powerplant will be modified, replaced, or removed within a period of three years with a combined-cycle thermal powerplant that uses the best available control technology and obtains necessary offsets, as determined at the time the combined-cycle thermal powerplant is constructed, and that complies with all other applicable laws, ordinances and standards" [Pub. Resources Code, § 25552(e)(5)(B)].

LOCAL

No local or county ordinances apply to power plant efficiency.

POWER PLANT RELIABILITY

Presently, there are no laws, ordinances, regulations or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the Commission must make findings as to the manner in which the project is to be designed, sited and operated to ensure safe and reliable operation [Cal. Code Regs., tit. 20, § 1752(c)].

PUBLIC HEALTH

FEDERAL

Clean Air Act section 112 (42 U.S. Code section 7412)

Section 112 requires new sources which emit more than ten tons per year of any specified hazardous air pollutant (HAP) or more than 25 tons per year of any combination of HAPs to apply Maximum Achievable Control Technology (MACT).

STATE

California Health and Safety Code sections 39650 et seq.

These sections mandate the Air Resources Board and the Department of Health Services to establish safe exposure limits for toxic air pollutants and identify pertinent best available control technologies. They also require that the new source review rule for each air pollution control district include regulations that require new or modified procedures for controlling the emission of toxic air contaminants.

California Health and Safety Code section 41700

This section states that “no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”

LOCAL

Bay Area Air Quality Management District Rule 2-1-316

This rule requires a risk assessment or risk screening analysis to be performed for new or modified facilities that emit one or more toxic air contaminants that exceed specified amounts.

SOCIOECONOMIC RESOURCES

FEDERAL

Executive Order 12898, "Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The order requires the US Environmental Protection Agency (EPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

Civil Rights Act of 1964, Public Law 88-352, 78 Stat.241 (Codified as amended in scattered sections of 42 U.S.C.) Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, or national origin in all programs or activities receiving federal financial assistance.

STATE

California Government Code, Sections 65996-65997

As amended by SB 50 (Stats. 1998, ch. 407, sec.23), these sections state that public agencies may not impose fees, charges, or other financial requirements to offset the cost for school facilities.

14 California Code of Regulations, Section 15131

- Economic or social effects of a project shall not be treated as significant effects on the environment.
- Economic or social factors of a project may be used to determine the significance of physical changes caused by the project.
- Economic, social and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce and/or avoid the significant effects on the environment.

LOCAL

Santa Clara County

Santa Clara County General Plan. 1994.

City of San Jose

City of San Jose General Plan, 1994.

Santa Clara Unified School District

- School Impact Fees assessed pursuant to the California Education Code Section 17620 and Government Code Section 65995(b)(2).

SOIL AND WATER RESOURCES

FEDERAL

Clean Water Act

The Clean Water Act (33 U.S.C. section 1257 et seq.) requires states to set standards to protect water quality through the regulation of point source and certain non-point source discharges to surface water. These discharges are regulated through requirements set forth in specific or general National Pollutant Discharge Elimination System (NPDES) Permits. Stormwater discharges during construction and operation of a facility, and incidental non-stormwater discharges associated with pipeline construction also fall under this act , and are normally addressed through a general NPDES permit. In California, requirements of the Clean Water Act regarding regulation of point-source discharges and stormwater discharges are delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs).

Section 404 Permit to Place or Discharge Dredged or Fill Material

Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including rivers, streams and wetlands. The Army Corps of Engineers (ACOE) issues site-specific or general (nationwide) permits for such discharges.

Section 401 Water Quality Certification

Section 401 of the Clean Water Act provides for state certification that federal permits allowing discharge of dredged or fill material into waters of the United States will not violate federal and state water quality standards. These certifications are issued by the RWQCBs. Proposed linear facilities can cross ephemeral drainages that are considered waters of the United States.

STATE

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967, Water Code section 13000 et seq., requires the State Water Resources Control Board (SWRCB) and the nine RWQCBs to adopt water quality criteria to protect state waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for the project area are contained in the San Francisco Bay Region Water Quality Control Plan. These standards are typically applied to the proposed project through the Waste

Discharge Requirements (WDRs) permit. The Porter-Cologne Water Quality Control Act also requires the SWRCB and the nine RWQCBs to ensure the protection of water quality through the regulation of waste discharges to land.

California Water Code

Section 13551 of the Water Code prohibits the use of "...water from any source of quality suitable for potable domestic use for non-potable uses, including ...industrial... uses, if suitable recycled water is available..." given conditions set forth in Section 13550. These conditions take into account the quality and cost of the water, the potential for public health impacts and the effects on downstream water rights, beneficial uses and biological resources.

Section 13552.6 of the Water Code specifically identifies that the use of potable domestic water for cooling towers, if suitable recycled water is available, is an unreasonable use of water. The availability of recycled water is based upon a number of criteria that must be taken into account by the SWRCB. These criteria are that: the quality and quantity of the reclaimed water are suitable for the use; the cost is reasonable, and the use is not detrimental to public health, will not impact downstream users or biological resources, and will not degrade water quality.

Section 13552.8 of the Water Code states that any public agency may require the use of recycled water in cooling towers if certain criteria are met. These criteria include that recycled water is available and meets the requirements set forth in section 13550; the use does not adversely affect any existing water right; and if there is public exposure to cooling tower mist using recycled water, appropriate mitigation or control is necessary.

State Water Resources Control Board Policies

The SWRCB has also adopted a number of policies that provide guidelines for water quality protection. The principle policy of the SWRCB which addresses the specific siting of energy facilities is the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power plant Cooling (adopted by the Board on June 19, 1976 by Resolution 75-58). This policy states that use of fresh inland waters should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. This SWRCB policy requires that power plant cooling water should come from, in order of priority: wastewater being discharged to the ocean, ocean water, brackish water from natural sources or irrigation return flow, inland waste waters of low total dissolved solids, and other inland waters. This policy also addresses cooling water discharge prohibitions.

Tertiary wastewater Treatment permit

Under Title 23 of the California Code of Regulations, the California Department of Health Services reviews and approves wastewater treatment systems to meet

tertiary treatment standards, allowing recycled use of water for industrial processes such as for steam production and cooling water.

LOCAL

Santa Clara Valley Water District

The Applicant, as part of the Energy Commission's certification, will be required to secure a Storm Water Discharge Permit in accordance with Ordinance No. 83-2 of the Santa Clara Valley Water District (SCVWD), as a result of its plans to construct a storm water outlet and discharge flows into Coyote Creek, a designated floodway under SCVWD's jurisdiction. In addition, the Applicant will be required to secure a Well Destruction Permit from the Energy Commission in accordance with SCVWD Ordinance No. 90-1, for the removal and closure of existing site water wells.

City of San Jose

The Applicant, as part of the Energy Commission's certification, will be required to satisfy grading, excavation and erosion requirements consistent with City of San Jose's Excavation and Grading Permit.

The Applicant will also need to satisfy the requirements of the Recycled Water Use Permit consistent with the South Bay Water Recycling (SBWR) Program.

In addition, the applicant will also need to satisfy the requirements of the Industrial Wastewater Discharge Permit consistent with City of San Jose's requirements, which will set the conditions for accepting LECEF's wastewater stream into the City's Water Pollution Control Plant (WPCP).

TRAFFIC AND TRANSPORTATION

FEDERAL

- Title 49, Code of Federal Regulations, Sections 171-177, governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- Title 49, Code of Federal Regulations, Sections 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.

STATE

- Section 353 defines hazardous materials. California Vehicle Code, Sections 31303-31309, regulates the highway transportation of hazardous materials, the routes used, and restrictions thereon.
- Sections 31600-31620 regulate the transportation of explosive materials.
- Sections 32000-32053 regulate the licensing of carriers of hazardous materials and include noticing requirements.
- Sections 32100-32109 establish special requirements for the transportation of substances presenting inhalation hazards and poisonous gases.
- Sections 34000-34121 establish special requirements for the transportation of flammable and combustible liquids over public roads and highways.
- Sections 34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7, 34506, 34507.5 and 34510-11 regulate the safe operation of vehicles, including those that are used for the transportation of hazardous materials.
- Sections 25160 et seq. addresses the safe transport of hazardous materials.
- Sections 2500-2505 authorize the issuance of licenses by the Commissioner of the California Highway Patrol for the transportation of hazardous materials including explosives.
- Sections 13369, 15275, and 15278 address the licensing of drivers and the classifications of licenses required for the operation of particular types of vehicles. In addition, the possession of certificates permitting the operation of vehicles transporting hazardous materials is required.
- California Streets and Highways Code, Sections 117 and 660-72, and California Vehicle Code, Sections 35780 et seq., require permits for the transportation of oversized loads on county roads.
- California Street and Highways Code, Sections 660, 670, 1450, 1460 et seq., 1470, and 1480, regulates right-of-way encroachment and the granting of permits for encroachments on state and county roads.

All construction within the public right-of-way will need to comply with the “Manual of Traffic Controls for Construction and Maintenance of Work Zones” (Caltrans, 1996).

LOCAL

The Santa Clara Valley Transportation Authority (VTA) oversees the Santa Clara County Congestion Management Plan (CMP). The County and cities within are mandated, per State legislation, to implement a deficiency plan whenever applicable roadways operate below an adopted minimum level of service. The Transportation and Circulation Element in the 1994 San Jose General Plan sets forth goals, policies, and implementation programs related to traffic issues in the city. These goals include minimum level of service (LOS) standards for local routes, regional routes, and state highway facilities. The General Plan lists the following policies:

- The City’s LOS standards for the state highway system and specific routes of regional significance shall be those standards adopted in the Santa Clara County CMP; and
- The City shall require all new development projects to analyze their contribution to increased traffic and to implement improvements necessary to address the increase.

The City of San Jose has defined the desirable minimum level of service for their local intersections to be D during peak commute times. The Santa Clara County CMP also desires a minimum LOS D but allows a LOS E on certain routes of regional significance as well as state highway facilities.

The City of San Jose considers a traffic impact significant if it causes a local intersection to deteriorate below LOS D. If the intersection is already operating at LOS E or F, a traffic impact is considered significant if it causes an increase in the average stopped delay¹ for the critical movements by four seconds or more and the critical Volume/Capacity² (V/C) value to increase by 0.01 or more.

The CMP considers a traffic impact significant if it causes a regional intersection to deteriorate below LOS E. If the intersection is already operating at LOS F, a traffic impact is considered significant if it causes an increase in the average

¹ Average Stopped Delay is the total stopped time delay experienced by all vehicles in an approach or lane group during a designated time period divided by the total volume entering the intersection in the approach or lane group during the same time period. The stopped time delay is the time an individual vehicle spends stopped in a queue while waiting to enter an intersection.

² Volume/Capacity (V/C) is a measure of the overall sufficiency of an intersection. It is typically referred to as degree of saturation. Sustainable values of V/C range from 0, when the flow rate is zero, to 1.0, when the flow rate equals capacity.

stopped delay for the critical movements by four seconds or more and the critical V/C value to increase by 0.01 or more.

The CMP considers an impact to the freeway system significant if it causes the segment to operate below LOS E, or contributes in excess of 1 percent of segment capacity³ to a segment already operating at LOS F.

³ The CMP specifies that freeway capacity for a 6-lane segment is 2,300 vehicles per hour per lane (vphpl) and 2,200 vphpl for a 4-lane facility.

TRANSMISSION LINE SAFETY AND NUISANCE

Discussed below by subject area are design-related LORS applicable to the physical impacts of the proposed underground transmission line and the existing overhead grid lines potentially affected by operation of the proposed LECEF. The potential for impacts is assessed in terms of compliance with specific federal or state regulations or established industry standards and practices. There presently are no local laws or regulations specifically aimed at the physical structure or dimensions of electric power lines to limit the impacts noted above. However, many local jurisdictions require such lines to be located underground because of the potential for visual impacts on the landscape.

AVIATION SAFETY

Any hazard to area aircraft relates to the potential for collision in the navigable air space. The applicable federal LORS as discussed below are intended to ensure the distancing and visibility necessary to prevent such collisions.

Federal

- Title 14, Part 77 of the Federal Code of Regulations (CFR), “Objects Affecting the Navigation Space.” Provisions of these regulations specify the criteria used by the Federal Aviation Administration (FAA) for determining whether a “Notice of Proposed Construction or Alteration” is required for potential obstruction hazards. The need for such a notice depends on factors related to the height of the structure, the slope of an imaginary surface from the end of nearby runways to the top of the structure, and the length of the runway involved. Such notification allows the FAA to ensure that the structure is located to avoid the aviation hazards of concern.
- FAA Advisory Circular (AC) No. 70/460-2H, “Proposed Construction and or Alteration of Objects that May Affect the Navigation Space.” This circular informs each proponent of a project that could pose an aviation hazard of the need to file the “Notice of Proposed Construction or Alteration” (Form 7640) with the FAA.
- FAA AC No. 70/460-1G, “Obstruction Marking and Lighting.” This circular describes the FAA standards for marking and lighting objects that may pose a navigation hazard as established using the criteria in Title 14, Part 77 of the CFR.

INTERFERENCE WITH RADIO-FREQUENCY COMMUNICATION

Transmission line-related radio-frequency interference is one of the indirect effects of line operation as produced by the physical interactions of line electric fields. Since electric fields are unable to penetrate most materials including the soil, such interference and other electric field effects are not associated with

underground lines and would, therefore, not be associated with the proposed project line. For overhead lines, any such interference usually depends on the magnitude of the electric fields involved. Because of this, the potential for manifestation could be assessed from field strength values calculated for the line. The following regulations are intended to ensure that such lines are located away from areas of potential interference and that any interference is mitigated whenever it occurs.

Federal

- Federal Communications Commission (FCC) regulations in Title 47 CFR, Section 15.25. Provisions of these regulations prohibit operation of any devices producing force fields, which interfere with radio communications, even if (as with transmission lines) such devices are not intentionally designed to produce radio-frequency energy. Such interference is due to the radio noise produced by the action of the electric fields on the surface of the energized conductor. The process involved is known as corona discharge but is referred to as spark gap electric discharge when it occurs within gaps between the conductor and insulators or metal fittings. When generated, such noise manifests itself as perceivable interference with radio or television signal reception or interference with other forms of radio communication. Since the level of interference depends on factors such as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration and weather conditions, maximum interference levels are not specified as design criteria for modern transmission lines. The FCC requires each line operator to mitigate all complaints about interference on a case-specific basis. Staff usually recommends specific conditions of certification as necessary to ensure compliance with this FCC requirement.

State

- General Order 52 (GO-52), California Public Utilities Commission (CPUC). Provisions of this order govern the construction and operation of power and communications lines and specifically deal with measures to prevent or mitigate inductive interference. Such interference is produced by the electric field induced by the line in the antenna of a radio signal receiver.

Several design and maintenance options are available for minimizing these electric field-related impacts. When incorporated in the line design and operation, such measures also serve to reduce the line-related audible noise discussed below.

AUDIBLE NOISE

Industry Standards

There are no design-specific federal regulations to limit the audible noise from transmission lines. As with radio noise, such audible noise is limited instead through design, construction or maintenance practices established from industry research and experience as effective without significant impacts on line safety, efficiency maintainability and reliability. All overhead, high-voltage lines are designed to assure compliance. As with radio-frequency noise, such audible noise usually results from the action of the electric field at line conductor surface and could be perceived as a characteristic crackling, frying or hissing sound or hum, especially in wet weather. Since the noise level depends on the strength of the line electric field, the potential for perception can be assessed from estimates of the field strengths expected during operation. Such noise is usually generated during rainfall, but mainly from overhead lines of 345 kV or higher. It is, therefore, not generally expected at significant levels from those of less than 345 kV such as the 115 kV and 230 kV grid lines in question. Research by the Electric Power Research Institute (EPRI 1982) has validated this by showing the fair-weather audible noise from modern transmission lines to be generally indistinguishable from background noise at the edge of a 100-ft right-of-way.

NUISANCE SHOCKS

Industry Standards

There are no design-specific federal regulations to limit nuisance shocks in the transmission line environment. For modern high-voltage lines, such shocks are effectively minimized through grounding procedures specified in the National Electrical Safety Code (NESC) and the joint guidelines of the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). Nuisance shocks are caused by current flow at levels generally incapable of causing significant physiological harm. They result mostly from direct contact with metal objects electrically charged by fields from the energized line. Such electric charges are induced in different ways by the line electric and magnetic fields. Each applicant is responsible in all cases for ensuring compliance with these grounding-related practices within the right-of-way. Staff usually recommends specific conditions of certification as necessary to ensure that such grounding is made by both the project owner and the property owners along the line route.

FIRE HAZARDS

The fire hazards addressed through the following regulations are those that could be caused by sparks from conductors of overhead lines or that could result from direct contact between the line and nearby trees and other combustible objects.

State

- General Order 95 (GO-95), CPUC, “Rules for Overhead Electric Line Construction” specifies tree-trimming criteria to minimize the potential for power line-related fires.
- Title 14 Section 1250 of the California Code of Regulations: “Fire Prevention Standards for Electric Utilities” specifies utility-related measures for fire prevention.

Compliance with these regulations minimizes the potential for such fires.

HAZARDOUS SHOCKS

The hazardous shocks addressed by the following regulations and standards are those that could result from direct or indirect contact between an individual and the energized line whether overhead or underground. Such shocks are capable of serious physiological harm or death and remain a driving force in the design and operation of transmission and other high-voltage lines.

State

- GO-95, CPUC. “Rules for Overhead Line Construction”. These rules specify uniform statewide requirements for overhead line construction regarding ground clearance, grounding, maintenance and inspection. Implementing these requirements ensures the safety of the general public and line workers.
- GO-128, CPUC. Rules for Construction of Underground Electric Supply and Communication Systems”. These rules specify uniform statewide requirements for underground line construction regarding clearance, grounding techniques, maintenance, and inspection.
- Title 8, CCR, Section 2700 et seq., Sections 2700 through 2974. “High Voltage Electric Safety Orders”. These safety orders establish essential requirements and minimum standards for safely installing, operating, working around, and maintaining electrical installations and equipment

Local

There are no shock hazard-related requirements on the physical dimensions of power lines at the local level.

Industrial Standards

No design-specific federal regulations have been established to prevent hazardous shocks from overhead power lines. Safety is assured within the industry from compliance with the requirements in the National Electrical Safety Code for high-voltage Lines. These provisions specify the minimum national safe operating clearances applicable in areas of line accessibility to the public. They

are intended to minimize the potential for direct or indirect contact with the energized line.

ELECTRIC AND MAGNETIC FIELD (EMF) EXPOSURE

The possibility of deleterious health effects from electric and magnetic field exposure has increased public concern in recent years about living near high-voltage lines. Both fields occur together whenever electricity flows, hence the general practice of describing exposure to them together as EMF exposure. The available evidence as evaluated by CPUC, other regulatory agencies, and staff, has not established that such fields pose a significant health hazard to exposed humans. However, staff considers it important, as does the CPUC, to note that while such a hazard has not been established from the available evidence, the same evidence does not serve as proof of a definite lack of a hazard. Staff, therefore considers it appropriate in light of present uncertainty, to reduce such fields as feasible without affecting line safety, efficiency, reliability and maintainability.

While there is considerable uncertainty about the EMF/health effects issue, the following facts have been established from the available information and have been used to establish existing policies:

- Any exposure-related health risk to the exposed individual will likely be small.
- The most biologically significant types of exposures have not been established.
- Most health concerns are about the magnetic field.
- The measures employed for such field reduction can affect line safety, reliability, efficiency and maintainability, depending on the type and extent of such measures.

State

The CPUC (which regulates the installation and operation of high-voltage lines in California) has determined that only no-cost or low-cost measures are presently justified in any effort to reduce power line fields beyond levels existing before the present health concern arose. The CPUC has further determined that such reduction should be made only for new or modified lines. It required each utility within its jurisdiction to establish EMF-reducing measures and incorporate them into the designs for all new or upgraded power lines and related facilities within their respective service areas. The CPUC further established specific limits on the resources to be used in each case for field reduction. Such limitations were intended by the CPUC to apply to the cost of any redesign to reduce field strength or relocation to reduce exposure. Utilities not within the jurisdiction of the CPUC voluntarily comply with these CPUC requirements. This CPUC policy resulted from assessments made to implement CPUC Decision 93-11-013.

In keeping with this CPUC policy, staff requires evidence that each proposed overhead line will be designed according to the EMF-reducing design guidelines applicable to the utility service area involved. These field-reducing measures can impact line operation if applied without appropriate regard for environmental and other local issues bearing on safety, reliability efficiency and maintainability. It is therefore, up to each applicant to ensure that such measures are applied without significant impacts on line operation and safety. The extent of such applications would be reflected by the ground-level field strengths as measured during operation. When estimated or measured for lines of similar voltage and current-carrying capacity, staff and other regulatory agencies can use such field strength values to assess effectiveness at field strength reduction. These field strengths can be estimated for any given design using established procedures. Estimates are specified for a height of one meter above the ground, in units of kilovolts per meter (kV/m), for the electric field, and milligauss (mG) for the companion magnetic field. Their magnitude depends on line voltage (in the case of electric fields), the geometry of the structures, degree of cancellation from nearby conductors, distance between conductors and, in the case of magnetic fields, amount of current in the line.

Since close placement maximizes the cancellation effects of line fields, undergrounding (in which line conductors are closely placed together in their burial casings) produces the lowest field levels possible from the power transmission involved. The continuing challenge is to design and place those lines to achieve maximum field cancellation without affecting safety, efficiency and reliability. The necessary design and placement methods are included in the line design guidelines of each utility.

Since each new line in California is currently required to be designed to incorporate the EMF-reducing requirements of the utility in the service area involved, these fields from the line are required under existing CPUC policies to be similar to fields from similar lines in that service area. A condition of certification is usually proposed by staff to ensure implementation of the design measures necessary. In the case of undergrounding, which produces the maximum field strength reduction possible, staff may not regard validating field strength measurements as necessary during operations.

Industrial Standards

There are no health-based federal regulations or industry codes specifying environmental limits on the strengths of fields from power lines. However, the federal government continues to conduct and encourage research necessary for an appropriate policy on the EMF health issue.

In the face of the present uncertainty, several states have opted for design-driven regulations ensuring that fields from new lines are generally similar to those from existing lines. Some states (Florida, Minnesota, New Jersey, New York, Montana) have set specific environmental limits on one or both fields in this

regard. These limits are, however, not based on any specific health effects. Most regulatory agencies believe, as does staff, that health-based limits are inappropriate at this time. They also believe that the present knowledge of the issue does not justify any retrofit of existing lines.

Before the present health-based concern developed, measures to reduce field effects from power line operations were mostly aimed at the electric field component whose effects can manifest themselves as the previously noted radio noise, audible noise and nuisance shocks. The present focus is on the magnetic field since only it can penetrate the soil, building and other materials to potentially produce the types of health impacts at the root of the present concern. As one focuses on the strong magnetic fields from the more visible overhead transmission and other high-voltage power lines, staff considers it important for perspective, to note that an individual in a home could be exposed for short periods to much stronger fields while using some common household appliances (National Institute of Environmental Health Services and the U.S Department of Energy, 1995). Scientists have not established which of these types of exposures would be more biologically meaningful in the individual. Staff notes such exposure differences only to show that high-level magnetic field exposures regularly occur in areas other than around high-voltage power lines.

TRANSMISSION SYSTEM ENGINEERING

STATE

- California Public Utilities Commission (CPUC) General Order 95 (GO-95), “Rules for Overhead Electric Line Construction,” formulates uniform requirements for construction of overhead lines. Compliance with this order ensures adequate service and safety to persons engaged in the construction, maintenance, operation or use of overhead electric lines and to the public in general.
- CPUC General Order 128 (GO-128), “Rules for Construction of Underground Electric Supply and Communications Systems,” establishes uniform requirements and minimum standards to be used for underground supply systems to ensure adequate service and safety.
- The National Electric Safety Code, 1999 provides electrical, mechanical, civil and structural requirements for overhead electric line construction and operation.
- Western Systems Coordinating Council (WSCC) Reliability Criteria provides the performance standards used in assessing the reliability of the interconnected system. These Reliability Criteria require the continuity of service to loads as the first priority and preservation of interconnected operation as a secondary priority. The WSCC Reliability Criteria includes the Reliability Criteria for Transmission System Planning, Power Supply Design Criteria, and Minimum Operating Reliability Criteria. Analysis of the WSCC system is based to a large degree on WSCC Section 4 “Criteria for Transmission System Contingency Performance,” which requires that the results of power flow and stability simulations verify established performance levels. Performance levels are defined by specifying the allowable variations in voltage, frequency and loading that may occur on systems other than the one in which a disturbance originated. Levels of performance range from no significant adverse effect outside a system area during a minor disturbance (loss of load or a single transmission element out of service) to a performance level that only seeks to prevent system cascading and the subsequent blackout of islanded areas during major disturbances (such as loss of all lines in a right of way). While controlled loss of generation, load, or system separation is permitted in extreme circumstances, their uncontrolled loss is not permitted (WSCC 1998).
- North American Electric Reliability Council (NERC) Planning Standards provides policies, standards, principles and guidelines to assure the adequacy and security of the electric transmission system. With regard to power flow and stability simulations, these Planning Standards are similar to WSCC’s Criteria for Transmission System Contingency Performance. The NERC planning standards provide for acceptable system performance under

normal and contingency conditions; however, the NERC planning standards apply not only to interconnected system operation but also to individual service areas (NERC 1998).

- Cal-ISO Reliability Criteria also provide policies, standards, principles and guidelines to assure the adequacy and security of the electric transmission system. With regard to power flow and stability simulations, these Planning Standards are similar to WSCC's Criteria for Transmission System Contingency Performance and the NERC Planning Standards. The Cal-ISO Reliability Criteria incorporate the WSCC Criteria and NERC Planning Standards. However, the Cal-ISO Reliability Criteria also provide some additional requirements that are not found in the WSCC Criteria or the NERC Planning Standards. The Cal-ISO Reliability Criteria apply to all existing and proposed facilities interconnecting to the Cal-ISO controlled grid. It also applies when there are any impacts to the Cal-ISO grid due to facilities interconnecting to adjacent controlled grids not operated by the Cal-ISO.
- Cal-ISO Participating Generator Interconnection Agreement consists of detailed explanations of the requirements in the Cal-ISO Tariff pertaining to the paralleled generating unit.

VISUAL RESOURCES

FEDERAL

The proposed project (including the linear facilities) is not located on federally administered public lands and is not subject to federal regulations pertaining to visual resources.

STATE

None of the roadways in the project vicinity, including State Route (SR) 237 and Interstate 880 (I-880) are eligible or designated State Scenic Highways (State Scenic Highway System Web Site:

[Http://svhqsg4.dot.ca.gov:80/hq/LandArch/scenic/cahisys.htm](http://svhqsg4.dot.ca.gov:80/hq/LandArch/scenic/cahisys.htm)). Therefore, no state regulations pertaining to scenic resources are applicable to the project.

LOCAL

The following discussion of Local laws, ordinances, regulations, and standards (LORS) is based on Section 5.13.5 (LORS Compliance) of the Applicant's Application (LECEF 2001a, AFC pages 8.11-16 through 19); supplemental Data Responses submitted by the Applicant (LECEF 2001d, Data Response No. 130); and a review of the City of San Jose General Plan, Zoning Ordinance, and Alviso Master Plan.

The proposed power plant and linear facilities are located within the City of San Jose and would be subject to local LORS pertaining to the protection and maintenance of visual resources. LORS applicable to the proposed project are found in the City of San Jose General Plan, Zoning Ordinance, and Alviso Master Plan. The pertinent sections of the City's General Plan include the scenic routes and trails and pathways discussions under the chapter on Aesthetic, Cultural and Recreational Resources, and the discussion of urban throughways under Section V. Land Use/Transportation Diagram. Pertinent standards and policies within the Alviso Master Plan are found in the Land Use Plan section of the Master Plan under Land Use Policies, Design Guidelines, and Landscaping Policies (City of San Jose, 1998a, pp. 43-47, 62-63, and 65-67 respectively).

WASTE MANAGEMENT

FEDERAL

Superfund Amendments and Reauthorization Act of 1986

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III and Clean Air Act of 1990 established a nationwide emergency planning and response program, and imposed reporting requirements for businesses which store, handle, or produce significant quantities of extremely hazardous materials. The Act (codified in 40 C.F.R., § 68.110 et seq.) requires the states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility through preparation of Risk Management Plans. The requirements of these Acts are reflected in the California Health and Safety Code, section 25531 et seq.

Resource Conservation and Recovery Act, RCRA (42 U.S.C. § 6922)

RCRA establishes requirements for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal. Section 6922 requires the generators of hazardous wastes to comply with requirements regarding:

- Record keeping practices which identify the quantities and disposal of hazardous wastes generated,
- Labeling practices and use of appropriate containers,
- Use of a recording or manifest system for transportation, and
- Submission of periodic reports to the EPA or an authorized state agency.

Title 40, Code of Federal Regulations, Part 260

These sections specify the regulations promulgated by the EPA to implement the requirements of RCRA as described above. To facilitate such implementation, the defining characteristics of each hazardous waste are specified in terms of toxicity, ignitability, corrosivity, and reactivity.

STATE

California Health and Safety Code § 25100 et seq. (Hazardous Waste Control Act of 1972, as amended)

This act creates the framework under which hazardous wastes must be managed in California. It mandates the State Department of Health Services (now the

Department of Toxic Substances Control or DTSC, under the California Environmental Protection Agency, or Cal EPA) to develop and publish a list of hazardous and extremely hazardous wastes, and to develop and adopt specific criteria and guidelines for classifying such wastes. The act also requires all hazardous waste generators to file specific notification statements with Cal EPA and creates a manifest system to be used when transporting such wastes.

California Health and Safety Code, Section 41700

California Health and Safety Code, section 41700, requires that “No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”

Title 14, California Code of Regulations, § 17200 et seq. (Minimum Standards for Solid Waste Handling and Disposal)

These regulations specify the minimum standards applicable to the handling and disposal of solid wastes. They also specify the guidelines necessary to ensure that all solid waste management facilities comply with the solid waste management plans of the administering county agency and the California Integrated Waste Management Board.

Title 22, California Code of Regulations, § 66262.10 et seq. (Generator Standards)

These sections establish specific requirements for generators of hazardous wastes with respect to handling and disposal. Under these requirements, all waste generators are required to determine whether or not their wastes are hazardous according to state-specified criteria. As with the federal program, every hazardous waste generator is required to obtain an EPA identification number, prepare all relevant manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Additionally, all hazardous wastes are required to be handled only by registered hazardous waste transporters. Requirements for record keeping, reporting, packaging, and labeling are also established for each generator.

LOCAL

The City of San Jose has the responsibility for administration and enforcement of the California Integrated Waste Management Act for non-hazardous solid waste for the proposed energy center.

The Santa Clara County Certified Unified Permitting Agency (CUPA) is the local agency which administers and enforces compliance with the Hazardous Waste

Control Act. This agency will also regulate hazardous waste management, handling and disposal procedures at the proposed energy center.

In the event of an emergency spill of hazardous materials/waste the Santa Clara Hazardous Materials Response Team or the San Jose Hazardous Incidence Team (HIT) will respond for containment and cleanup.

WORKER SAFETY AND FIRE PROTECTION

FEDERAL

In December 1970 Congress enacted Public Law 91-596, the Federal Occupational Safety and Health Act of 1970. This Act mandates safety requirements in the workplace and is found in Title 29 of the United States Code, § 651 (29 U.S.C. §§ 651 through 678). Implementing regulations are codified at Title 29 of the Code of Federal Regulations, under General Industry Standards §§ 1910.1 - 1910.1500 and clearly define the procedures for promulgating regulations and conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector. Most of the general industry safety and health standards now in force under this OSH Act represent a compilation of materials from existing federal standards and national consensus standards. These include standards from the voluntary membership organizations of the American National Standards Institute (ANSI) and the National Fire Protection Association (NFPA) which publishes the National Fire Codes.

The congressional purpose of the Occupational Safety and Health Act is to “assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources,” (29 USC § 651). The Federal Department of Labor promulgates and enforces safety and health standards that are applicable to all businesses affecting interstate commerce. The Department of Labor established the Occupational Safety and Health Administration (OSHA) in 1971 to discharge the responsibilities assigned by the OSH Act.

Applicable Federal requirements include:

- 29 U.S. Code § 651 et seq. (Occupational Safety and Health Act of 1970);
- 29 CFR §1910.1 - 1910.1500 (Occupational Safety and Health Administration Safety and Health Regulations);
- 29 CFR §1952.170 – 1952.175 (Federal approval of California’s plan for enforcement of its own Safety and Health requirements, in lieu of most of the Federal requirements found in 29 CFR §1910.1 – 1910.1500).

STATE

California passed the Occupational Safety and Health Act of 1973 (“Cal/OSHA”) as published in the California Labor Code § 6300. Regulations promulgated as a result of the Act are codified at Title 8 of the California Code of Regulations, beginning with §337-560 and continuing with §1514 through 8568. The California Labor Code requires that the Cal/OSHA Standards Board adopt standards at least as effective as the federal standards (Labor Code § 142.3(a))

and thus all Cal/OSHA health and safety standards meet or exceed the Federal requirements. Hence, California obtained federal approval of its State health and safety regulations, in lieu of the federal requirements published at 29 CFR §1910.1 - 1910.1500). The Federal Secretary of Labor, however, continually oversees California's program and will enforce any federal standard for which the State has not adopted a Cal/OSHA counterpart.

The State of California Department of Industrial Relations is charged with responsibility for administering the Cal/OSHA plan. The Department of Industrial Relations is further split into six divisions to oversee, among other activities: industrial accidents, occupational safety and health, labor standards enforcement, statistics and research, and the State Compensation Insurance Fund (workers compensation).

Employers are responsible for informing their employees about workplace hazards, potential exposure and the work environment (Labor Code § 6408). Cal/OSHA's principal tool in ensuring that workers and the public are informed is the Hazard Communication standard first adopted in 1981 (8 CCR §5194). This regulation was promulgated in response to California's Hazardous Substances Information and Training Act of 1980. It was later revised to mirror the Federal Hazard Communication Standard (29 CFR §1910.1200) which established on the federal level an employee's "right to know" about chemical hazards in the workplace, but added the provision of applicability to public sector employers. A major component of this regulation is the required provision of Material Safety Data Sheets (MSDSs) to workers. MSDSs provide information on the identity, toxicity, and precautions to take when using or handling hazardous materials in the workplace.

Finally, 8 CCR §3203 requires that employers establish and maintain a written Injury and Illness Prevent Program to identify workplace hazards and communicate them to its employees through a formal employee-training program.

Applicable State requirements include:

- 8 CCR §339 - List of hazardous chemicals relating to the Hazardous Substance Information and Training Act;
- 8 CCR §337, et seq. Cal/OSHA regulations;
- 24 CCR § 3, et seq. - incorporates the current addition of the Uniform Building Code;
- Health and Safety Code § 25500, et seq. - Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at the facility;

- Health and Safety Code § 25500 - 25541 - Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at the facility.

LOCAL

The California Building Standards Code published at Title 24 of the California Code of Regulations § 3 et seq is comprised of eleven parts containing the building design and construction requirements relating to fire and life safety and structural safety. The Building Standards Code includes the electrical, mechanical, energy, and fire codes applicable to the project. Local planning/building & safety departments enforce the California Uniform Building Code.

National Fire Protection Association (NFPA) standards are published in the California Fire Code. The fire code contains general provisions for fire safety, including but not restricted to: 1) required road and building access; 2) water supplies; 3) installation of fire protection and life safety systems; 4) fire-resistive construction; 5) general fire safety precautions; 6) storage of combustible materials; 7) exits and emergency escapes; and 8) fire alarm systems. The California Fire Code reflects the body of regulations published at Part 9 of Title 24 (H&S Code §18901 et seq.) pertaining to the California Fire Code.

Similarly, the Uniform Fire Code Standards, a companion publication to the California Fire Code, contains standards of the American Society for Testing and Materials and the NFPA. It is the United State's premier model fire code. It is updated annually as a supplement and published every third year by the International Fire Code Institute to include all approved code changes in a new edition.

Applicable local (or locally enforced) requirements include:

- 1998 Edition of California Fire Code and all applicable NFPA standards (24 CCR Part 9);
- California Building Code Title 24, California Code of Regulations (24 CCR § 3, et seq.).
- Uniform Fire Code, Article 80, 1997
- City of San Jose Fire Code, Section 17.12
- City of San Jose Building Code, Section 24.03

The California Fire Code requires that industrial plants submit plans for review and approval by the City of San Jose Fire Department.